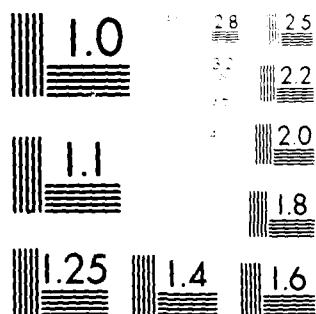


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# NHRC REPORT



CALENDAR YEAR



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MAY 24 1981  
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NAVAL HEALTH RESEARCH CENTER

P. O. BOX 85122  
SAN DIEGO, CALIFORNIA 92138

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND  
BETHESDA, MARYLAND

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OFFICE OF THE COMMANDING OFFICER



Commander D. E. Wood, MSC, USN  
Executive Officer



Captain J. E. Lang, MC, USN  
Commanding Officer



LCDR D. E. White, MSC, USN  
Administrative Officer

FROM THE COMMANDING OFFICER...

The Naval Health Research Center (NHRC), located on Point Loma in San Diego, occupies, in tenant status, six of the Naval Ocean Systems Center's (NOSC) "barracks" buildings, and spaces at the Naval Regional Medical Center and Naval Training Center, as follows:

- Building 306 (Top Deck), our Administrative Services Department; (Bottom Deck), the Walter L. Wilkins Biomedical Library;
- Building 309, Computer services, Code 82;
- Building 331, the Biological Sciences Department, Code 70;
- Building 332, the Environmental Medicine Department, Code 30;
- Building 346 (Lower Deck), Health Care Systems Department, Code 40; (Top Deck), the main offices of the Environmental Physiology Department, Code 60;
- Building 315, The Ergonomics Program of Code 60
- NTC Bldg 272, the Physical Fitness Program of Code 60;
- NRMC Bldg 36, Fourth Deck, the Clinical Psychophysiology Department.

Our recently revised organization chart and manual are described on pages 5 and 6.

We continued to have distinguished scientists visit us and give lectures, as well as our monthly scientific colloquiums described on page 42.

Our Clerkship Program included Ensign Raquel R. Cruz, MC, USNR, from Lubbock, Texas, during the months of June and July. Her interest was in immunology/microbiology.

LCDR D. E. White, MSC, USN, Administrative Officer, reported aboard on 16 April, replacing CDR W. E. Ferris, MSC, USN, who transferred to Landing Force Training Command, Pacific, Coronado.

Our Executive Officer, CDR D. E. Wood, MSC, USN, reported aboard on 5 October.

Advancements, academic degrees, honors, letters of commendation, awards, etc., for 1981, expanded greatly over the past year, and are described on pages 36-39; Welcome Aboard to and Farewell to, on page 4.

  
J. E. LANG  
Captain MC USN



L. C. Johnson, Ph.D.  
Chief Scientist

#### CHIEF SCIENTIST REPORT

In my report for the 1980 calendar year, I briefly outlined five major areas of research that were evolving at our Center. These programs include 1) assessment of the impact of occupational and environmental factors on health and performance; 2) health services research; 3) evaluation of the effects of benzodiazepine and other sleeping aids on electrophysiology and performance as part of our behavioral psychopharmacology program; 4) a major research effort in physical fitness to determine how physical fitness and workload interact with the fatigue associated with sustained performance; and 5) a biological research program focusing on the rapid identification of diseases to limit adverse impact on personal health and performance.

The 40 reports published by Center scientists during the last calendar year attests to this Center's continuing productivity. Considering that the Center had on board 12 Ph.D.s and 3 M.D. staff members during most of 1981, the number of publications reflects not only professional staff productivity, but also effectiveness of the non-doctorate technical and support personnel. In 1981, to reduce the delay in distribution of our research findings, we began immediate distribution of all Center reports to relevant Defense Department commands, potential users and interested personnel prior to publication in scientific journals. This new program has been successful, and 30 of our 1981 reports were distributed during the current year. This Center takes pride in the fact that most of our work is also submitted to scientific journals and that the majority of our research papers pass the scrutiny of peer review for publication. In 1981, 28 articles were published or accepted for publication in scientific journals.

All of our 1981 publications with a brief abstract are listed on page 12 of this report. I would, however, like to call your attention to a few reports that are pertinent to one or more of the five major areas of research cited earlier. Reports number 81-3, 81-29, 81-30, and 81-36 are publications concerned with the Center's initial efforts to establish a Naval Occupational Health Information Monitoring System (NOHIMS).

In a series of articles, reports number 81-10, 81-11, 81-12, 81-21, and 81-22, Commander Paul Bruder, MSC, USN (of Naval School of Health Sciences, Bethesda, Maryland) and LCDR Mark Butler, MSC, USN (of NHRC) joined forces to report on their extensive and intensive study of Medical Service Corps officers. Report number 81-28 examined another facet of health care resources research, "Environmental Factors and Retention Decisions on Health Care Providers".

Reports number 81-1, 81-82, 81-16, and 81-19 detail some of our findings with sedative hypnotics. Report No. 81-19 is a review of the published literature concerned with the effects of sedative hypnotics on human performance.

Reports number 81-20, 81-32, 81-4, and 81-40 detail our continuing work in the area of rapid identification of infectious diseases.

Current activities in occupational and environmental health include the initiation of a study of low white blood cell count (LWBCC) at Naval Weapons Center, China Lake. This study will identify the prevalence of LWBCC in both military and civilian personnel and involves, along with NHRC, the Naval Regional Medical Centers of Long Beach and San Diego as well as the Naval Weapons Center command.

The health systems resources research continues to evaluate the users of outpatient facilities and the impact of type of health system on receivers and providers. Recent findings clearly indicate that family practice is preferred by both patient and staff over the traditional primary care approach.

The physical fitness program has initiated the circuit-weight training system as a possible supplement to the current fitness program with its major emphasis on aerobic fitness. Circuit-weight training has received wide attention and positive responses. The physical fitness program is also concerned with determining the extent of obesity within the Navy and providing data for use in defining obesity standards. A hydrostatic weighing tank has been constructed and the instrumentation is being worked out for determining body density. Anthropometric measures (skinfolds and body circumferences)

have been gathered on 600 naval personnel and plans are being made for an additional 1500 personnel during the second quarter of 1982 (see pages 32 & 33).

The behavioral psychopharmacology program will continue its study of L-tryptophan as a sleeping aid and further examine the effects of benzodiazepines on anterograde amnesia. Efforts are underway to determine whether the benzodiazepine-related increase in arousal threshold during sleep poses an operational problem.

Rapid identification research has continued to show positive results. For example, an enzyme linked immunoassay (ELISA) test for adenovirus antigen was developed which has the sensitivity to detect viral antigen directly from clinical samples. A broad range of solid supports was used for covalently linking captured antibody. Nylon beads (type 6 and 6/6) proved superior as capture antibody support. Monoclonal antibody technology was begun to determine if antibody from the hybridoma cell would be superior to the antibody raised in rabbits.

Also a rapid method for identifying group A streptococcus directly from throat gargle using a commercially prepared latex capture antibody support proved successful in a field trial of 53 patients. The test procedure is simple, rapid (less than 1 hr) and easily interpretable. This technology proved superior to the ELISA or the coagglutination test.

In the enteric infection effort, blood clot culture was shown to be a superior method for culturing Salmonella from bacteremic patients. Using a combination of blood clot culture and specifically sensitized capture supports (Staphylococcus aureus Cowan 1 strain: COAG), positive cultures were identified 1 to 2 days more rapidly than by conventional procedures.

Effective use of recently acquired new instrumentation was reflected in a preliminary study on growth patterns of Shigella. The Abbott MS-2 Research Model was used to show that of 35 cultures studied 5 distinctive growth patterns emerged. A study of two epidemics showed that isolates from a single epidemic gave identical growth patterns. This procedure may add a new dimension to the epidemiological studies of Shigella infections.

Major studies usually receive the most attention, but the list of 1198s cited in this annual report attest to the breadth of the Center's research efforts. I would like to briefly mention three of these "smaller" areas of study. The first concerns the negative/positive effects of stress on performance, attitudes, and health in Marine Recruit training. This Congress-initiated study will be completed this year, and the final report will provide an indepth look at the effects of recruit training on a recruit's attitude towards himself, his instructors, and the Corps. How the recruit copes with the stresses of training and the positive attributes of the training will be major facets.



Sustained Ops study: A U.S. Marine Recon trooper walking on the treadmill at 30% Max  $\dot{V}O_2$  heart rate, monitored by Dave Ryman and Dr. Carl Englund


A new project, "evaluation of environmental, aircraft, and individual factors affecting aviator performance on the air combat maneuvering range", could have an impact on fleet operational capability. The new training technology that has been developed on the Air Combat Maneuvering Range (ACMR) is an important step forward in improving the combat proficiency of our naval aviators. The computer monitoring technology itself does not improve training, however. Integrating this technology into the learning process involves an understanding of the individual aviator and how he can best profit from this new information. The first year's effort on the project will attempt to determine what proportion of the variance in performance is due to each of the following: environment, hardware, personnel, and tactics. If, as we suspect, the personnel element makes up a large portion of the variance in system performance, we will focus on the individual aviator, his job on the ACMR and how we might improve his performance.

In another study, naval aviators are also the focus of interest. As part of the longitudinal studies program, several large data bases were added to NHRC files. For the study on "age-specific morbidity among naval aviators", Navy officer personnel records since 1968 were compiled into a file

of more than 1,000,000 records to provide chronological histories for each officer (N=180,000). Also, extensive flight data and flight mishap records have been compiled into a flight history file to provide exposure data for studies of health and performance in aviators.

Similarly, extensive information has been compiled on Navy divers to examine long-term health effects in this population. Detailed data on 706,259 dives (1970-1981) and 26,720 divers will provide a basis for studying exposure factors that relate to morbidity and mortality.

This Center's aviator study has already led to more interaction with the Naval Medical Research Laboratory at Pensacola and we look forward to continued effective collaboration.

  
L. C. JOHNSON  
Chief Scientist

Welcome aboard to

Christopher Blood, Psy Tech, 1 July  
Christine Colcord, Statistician, 20 July  
Gregory Baker, Research Psychol., 2 November

Michael Gorney, Statistician, 14 September

HM3 Robert Henney, to NTC, 12 May  
LCDR C. Gray, MC/USNR, to NTC, 22 July  
HM3 Rebecca Johnson, to NRC, 23 August  
HNS James & Nancy Gillet, 21 September  
(first enlisted husband/wife team to  
be assigned here)  
HM3 John Healy, to NTC, 10 October

HM1 Ike Kahn, 24 April  
LCDR E. Mueller, MSC/USN, 19 June  
Charmion McMillian, Biological Lab Tech,  
6 July  
HM1 Manuel Abroguena, 24 July  
HMC Collins C. Milhouse, 3 August  
CDR M. Kilpatrick, MC/USN, 25 August

LCDR D. White, MSC/USN, Admin Ofcr, 16 April  
Ruthie Ash, Computer Aid, 1 June  
Rena Paczowski, Computer Aid, 13 July  
Peggy Nelson, Supply Clerk, 5 August  
CDR D. E. Wood, MSC/USN, Exec. Ofcr, 5 October  
Victoria Moseley, Computer Aid, 4 November

Farewell to

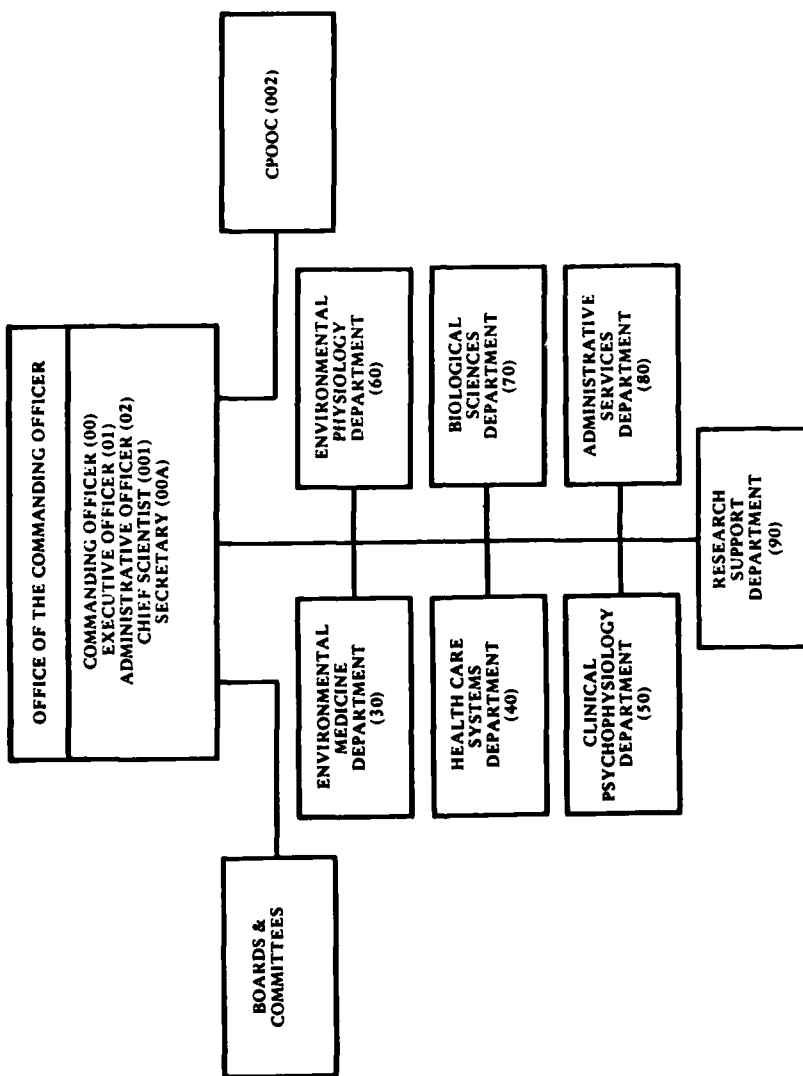
Richard Booth, resigned on 23 January  
Norma Heckman, transferred on 8 March

Dr. Allan Jones, resigned to take position  
at the University of Houston, 28 August

HM2 Dante Yumon, transferred on 21 January  
HM3 Thomas T. Pace, IV, released to in  
active duty, 10 October  
HM3 Cynthia Dixon, transferred, 30 June  
HM3 Greg Curtin, released to inactive duty  
on 21 July

LTJG S. Hilfiker, MSC/USN, transferred on  
15 May  
HM2 Roberta Boyd, transferred on 2 March  
HM2 Freda Carpitcher, transferred on 13 March  
HMC William Schuster, transferred to Fleet  
Reserve, on 1 October

Barbara Watson, transferred on 30 January  
CDR W. A. Ferris, MSC/USN, transferred on  
27 February  
Ruthie Ash, transferred on 27 July



31 December 1981	Approved  J. E. LANG, CAPT, MC, USN COMMANDING OFFICER	NAVAL MEDICAL RESEARCH & DEVELOPMENT COMMAND	NAVAL HEALTH RESEARCH CENTER Post Office Box 85122 SAN DIEGO, CALIFORNIA 92138-9174
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Organization Manual for the Naval Health Research Center  
Effective 13 October 1981\*

ORGANIZATION AND MISSION

MISSION and FUNCTIONS

The mission of the Naval Health Research Center (NHRC), as assigned by the Secretary of the Navy, and the functions to be performed to accomplish the mission, as assigned by the Chief, Bureau of Medicine and Surgery, are as follows:

MISSION

To conduct research and development on the medical and psychological aspects of health and performance of naval service personnel; and to perform such other functions or tasks as may be directed by the Chief, Bureau of Medicine and Surgery.

FUNCTIONS

- a. Conduct research on demographic and sociological factors related to health patterns and related behavior among naval service personnel.
- b. Conduct research on psychological stress in relation to illness and maladjustment in naval service occupations and duty environments.
- c. Conduct research on psychophysiological aspects of health and the physical and emotional fitness for work performance among naval service personnel.
- d. Conduct research on the epidemiology, prevention, and control of infectious diseases affecting performance of naval service personnel.
- e. Conduct epidemiological research on the biological and physical aspects of naval environments in relation to health and safety of naval service personnel.
- f. Disseminate the results of research in such a manner as to ensure adequate communication with naval activities concerned and the scientific community in general.
- g. Provide or undertake such other appropriate functions as may be authorized or directed by higher authority.

EXTERNAL ORGANIZATION AND COMMAND RELATIONSHIPS

The Center is a tenant command of Naval Ocean Systems Center.

STATUS AND COMMAND RELATIONSHIPS

The Center is a shore (field) activity in an active operating status under a Commanding Officer, and under the command and support of the Bureau of Medicine and Surgery (BUMED) exercised through the Commanding Officer, Naval Medical Research and Development Command, Bethesda, Maryland. The Center is under the area coordination authority of the Commander Naval Base, San Diego, California.

LOGISTIC SUPPORT

1. The Naval Ocean Systems Center (NOSC) provides direct logistic support to the Naval Health Research Center for functions of supply procurement, public works coordination, plant security and fire protection, civilian food service, printing services, safety program, and routine preventive maintenance for plant facilities.
2. Naval Regional Medical Center provides medical treatment.
3. Naval Regional Dental Center provides dental treatment.
4. Naval Training Center provides special services and military berthing.
5. Naval Submarine Base provides enlisted berthing and military food service.
6. Naval Supply Center provides civilian payroll services.

\*Change Transmittal dated and effective 15 December 1981 added: Code 90, Research Support Department.

7. Consolidated Civilian Personnel Office (CCPO) provides the EEO program and administers civilian personnel functions.
8. Personnel Support Detachment, Point Loma, provides travel, disbursing, and military personnel procedures.
9. Public Works Center provides maintenance and public works functions, transportation and building custodial services on a reimbursable basis.
10. Naval Legal Service Officer, San Diego, provides command legal assistance.

#### OFFICE OF THE COMMANDING OFFICER

The Office of the Commanding Officer consists of the Commanding Officer, Executive Officer, Administrative Officer, Chief Scientist, Chief Petty Officer of the Command, and Commanding Officer's Secretary.

#### COMMANDING OFFICER (00)

The Commanding Officer (CO) is the Medical Corps officer specifically assigned to that billet by the Commander, Naval Military Personnel Command. The CO is responsible for policy direction and coordination of all functions of the Center. Military command is executed from the CO to his subordinates through established channels of seniority, procedures, and delegation of authority. The CO assumes such additional duty as assigned by the Commander, Naval Military Personnel Command and such temporary and collateral duties as may be assigned by higher authority.

#### EXECUTIVE OFFICER (01)

The Executive Officer (XO) shall serve as the direct representative of the CO. As such, all orders issued by him shall be regarded as proceeding from the CO and shall govern all persons within the command. While executing the orders of or serving in place of the CO, the XO shall take precedence over all other officers attached to the command. His primary function shall be to assist the CO in the discharge of his responsibility for the overall supervision of the quality and effectiveness of the command's research, in the formulation of professional policies, standards and directives, and in military and civilian personnel management.

The XO shall direct the Administrative Officer regarding matters of common interest and responsibility.

The XO coordinates the Center's interactions with other Bureau of Medicine and Surgery, and Naval Medical Research and Development Command programs.

#### ADMINISTRATIVE OFFICER (02)

The Administrative Officer (AO) shall be responsible to the XO and CO for all administrative matters including the coordination of internal administration of the Center as well as management improvement functions. All orders of the AO shall be regarded as proceeding from the CO, whose orders and policies he shall conform to and effect. He shall advise the XO and the CO regarding nonprofessional functions and management of the Center, and shall assist them in the formulation of administrative policies, standards, and directives. He acts independently upon matters which do not require the personal attention of the CO or the XO, and keeps the XO apprised of the action he takes. The AO shall exercise due caution to assure that all matters of a professional or research nature which may come to his attention are promptly referred to the XO. The AO shall be an officer of the Medical Service Corps.

The AO shall:

- a) Establish methods for improving operating procedures, solving administrative problems, and correcting unsatisfactory conditions of an administrative nature.
- b) Be responsible for the coordination and efficient operation of the Administrative Services Department.
- c) Maintain current information regarding laws, regulations, policies, and instructions pertaining to naval administration in general and to management of this Center in particular.

- d) Ensure that all infractions of law or U.S. Navy Regulations and violations of discipline are promptly reported to the XO and the CO.
- e) Insure compliance with the provisions of U.S. Navy Regulations pertaining to the security of classified matter.
- f) Coordinate the activities of the Office of the Commanding Officer.
- g) Coordinate and manage the Center's Automated Data Processing programs.
- h) Maintain liaison with the Naval Regional Medical Center, Personnel Support Activity, Naval Training Center, and other commands as required.

#### CHIEF SCIENTIST (001)

The Chief Scientist (CS) is appointed by the CO from among permanent members of the Scientific Planning and Review Council (SPRC). Usual length of appointment will be three years.

The CS shall serve as the official representative for the SPRC in communicating with the CO and the command, and when appropriate, with higher authorities, other military activities, and civilian agencies.

The CS shall ensure that the Council responds to requests from the CO, higher authority, other military activities, and civilian agencies for information or action that falls within the Council's stated purpose and objectives.

The CS shall coordinate the various scientific research and activities of the Center, under the guidance of the CO, and advise researchers as to the timeliness, naval need, and requisite support available for the Center's research proposals.

#### CHIEF PETTY OFFICER OF THE COMMAND (002)

The Chief Petty Officer of the Command (CPOOC) shall assist and advise the CO on matters pertaining to the enlisted staff and perform other duties as assigned.

#### STANDING BOARDS AND COMMITTEES

Functional statements for Boards and Committees are contained in directives which establish these bodies. All proceedings shall be made a matter of official record and submitted to the Commanding Officer.

##### a. *Position Management and Evaluation Board*

To guide and assist management in the establishment of sound organization, design, staffing requirements and position structure necessary to carry out assigned tasks within constraints of costs and positive personnel practices.

##### b. *Committee for the Protection of Human Subjects*

Reviews all research proposals submitted by the command involving human subjects to determine that the risk to the subject is so outweighed by the sum of the benefits to the subject and the importance of the knowledge to be gained as to warrant a decision to allow the subject to accept these risks. Ensures that the rights and welfare of any such subject will be adequately protected.

##### c. *Safety Committee*

Conducts inspections for hazardous working conditions or materials and advises the CO on command safety matters.

##### d. *Scientific Planning and Review Council*

Advises and recommends to the CO on all scientific aspects including old, new, and projected scientific programs, as well as advising on all factors affecting the accomplishment of scientific goals.

##### e. *ADP Committee*

Reviews requests for ADP hardware and software. Evaluates the ADP needs of the Center to ensure efficiency of operations and prevent duplications.

## DEPARTMENTAL FUNCTIONS

### ENVIRONMENTAL MEDICINE DEPARTMENT (Code 30)

This Department conducts occupational health and safety research in the naval service to identify environmental hazards in the work place and aboard ship, to assess the impact of potentially harmful agents or conditions on health and performance, to determine causal factors in illness and accident risks, and to develop cost-effective intervention strategies to prevent or control such health risks. The Department studies morbidity, disability, and mortality in relation to demographic, occupational, environmental, psychological, and service history variables and conducts long-term prospective studies of health risks in career personnel, including the impact of chronic disease on performance and retention. The Department determines incidence, course, and outcome of psychiatric and substance abuse conditions and devises improved diagnostic and prognostic guidelines for effective patient management. Other areas include development of an occupational health information system and communications network for management and research purposes and epidemiological studies to determine the etiology, course, and outcome of occupationally related diseases and injuries in naval service. The Department designs and maintains files of medical and service history information for all naval personnel as a basis for epidemiological studies of morbidity and mortality in naval populations.

### HEALTH CARE SYSTEMS DEPARTMENT (Code 40)

The Health Care Systems Department is concerned with the analysis of needs for and utilization of in-patient and out-patient health care services for active duty, dependent, and retired naval personnel. The Department conducts research on naval health care facilities as complex organization which must coordinate activities of professional and support personnel to provide health care, and assesses influences on the cost, quality, and effectiveness of health care provision in shipboard and shore facilities. Additional areas of concern are the development and design of information systems about health care provision for management, clinical, and research purposes.

### CLINICAL PSYCHOPHYSIOLOGY DEPARTMENT (Code 50)

Conducts research on the physiological, behavioral, and performance aspects of health, and the physical and emotional fitness among naval and Marine Corps service personnel. The Department's research will investigate both exogenous and endogenous factors which affect human performance, health, and military effectiveness. The goal of this research will be to quantify the physiological and performance effects of occupational/environmental conditions, pharmacological agents, and certain clinical entities which may impair health and performance in operational settings. Areas of investigation include, but are not limited to, the behavioral effects of environmental toxins, the psychophysiological aspects of atypical work environments, the effects of pharmacological agents, both therapeutic and non-medicinal drugs, on performance, and the effects of disorders of arousal and sleep on personnel effectiveness.

### ENVIRONMENTAL PSYCHOLOGY DEPARTMENT (Code 60)

Investigates the unique demands placed upon Naval and Marine Corps personnel by their operational environments. Conducts research on psychological, physiological, and environmental stresses as they relate to human performance and impact on biochemical homeostasis. Essential to this work is the identification of the physical, mental and emotional requirements for successful performance during sustained military operations. Included in this research effort is the development of supportive programs for augmentation, restoration, and maintenance of physical fitness and health. Special emphasis is placed upon the implications of sex differences and aging for military job performance.

### BIOLOGICAL SCIENCES DEPARTMENT (Code 70)

This Department carries out studies on the epidemiology, prevention, and control of infectious diseases affecting the performance of naval personnel; investigates the biological aspects of Navy environments in relation to health of naval personnel; initiates and supports clinical investigations into the cause of infectious disease; initiates and supports studies on the effects of military training requirements on changes in biochemical, immunological, and microbiological

parameters which influence health patterns; investigates the protective role of humoral and cell mediated immune response against microbial agents (searches for new etiological agents of infectious disease); develops new methods and techniques for microbial identification; develops rapid methods for identifying bacterial and viral agents, using immunochemical technology and validation through field studies; develops new methods in biochemical research relating to human performance; emphasizes the preventive medicine aspects of health through field studies of methods for early diagnosis leading toward modes for disease treatment and control; designs, develops, and tests instrumentation to bring rapid diagnostic techniques to the operating forces.

ADMINISTRATIVE SERVICES DEPARTMENT (Code 80)

Provides overall administrative direction and support services to include but not limited to personnel management, facilities management, transportation service, financial management, plant account property control, library reference service, and graphic arts service.

RESEARCH SUPPORT DEPARTMENT (Code 90)

The Research Support Department provides hardware and software assistance to the research departments of this command. The Department develops and automates methods of statistical analysis related to scientific research projects, and provides consultation to investigators.

~~~~~

PERSONNEL  
(AS OF 31 DECEMBER 1981)

| MILITARY PERSONNEL             |    | CIVILIAN PERSONNEL |               |
|--------------------------------|----|--------------------|---------------|
| <u>Medical Corps</u>           |    | <u>Grade</u>       | <u>Number</u> |
| Captains                       |    |                    |               |
| Internist (Hematologist)       | 1  | SES                | 2             |
| Commanders                     |    |                    |               |
| Internist (Infectious Disease) | 1  | GS-14              | 2             |
| Lieutenant Commanders          |    |                    |               |
| Internist                      | 1  | GS-13              | 2             |
|                                |    | GS-12              | 10            |
| <u>Medical Service Corps</u>   |    |                    |               |
| Commanders                     |    | GS-11              | 8             |
| Microbiologist                 | 2  | GS-9               | 13            |
| Physiologist                   | 1  |                    |               |
| Research Psychologist          | 1  | GS-7               | 4             |
| Lieutenant Commanders          |    |                    |               |
| Aerospace Psychologist         | 1  | GS-6               | 6             |
| Biochemist                     | 1  |                    |               |
| Research Psychologist          | 1  | GS-5               | 7             |
| Microbiologist                 | 1  | GS-4               | 3             |
| Administrative                 | 1  |                    |               |
| Lieutenants                    |    | GS-3               | 1             |
| Clinical Psychologist          | 1  | WG-5               | 1             |
| Research Psychologist          | 1  |                    |               |
| Physiologist                   | 1  |                    |               |
|                                | 15 | Total              | 59            |

Enlisted

|       |           |    |
|-------|-----------|----|
| E-7   | 8425/8401 | 1  |
|       | 8506/8404 | 1  |
| E-6   | 8506/8404 | 3  |
|       | 0000/0000 | 1  |
| E-5   | 8506/0000 | 1  |
|       | 0000/0000 | 1  |
| E-4   | 8506/0000 | 1  |
|       | 8454/0000 | 1  |
|       | 0000/0000 | 3  |
| E-3   | 8454/0000 | 1  |
|       |           | 14 |
| Total |           | 29 |

In addition, there are several officers with additional duty to NHRC who serve on the Committee for the Protection of Human Subjects. They include one each of:

|                      |                                |
|----------------------|--------------------------------|
| Captain              | - Medical Corps                |
| Lieutenant Commander | - Chaplain Corps (see page 24) |
| Lieutenant           | - Judge Advocate General Corps |

81-1 SPINWEBER, CL & LC Johnson

(MR041.01.003-0157)

(U) Effects of Triazolam (0.5 mg) on Sleep, Performance, Memory, and Arousal Threshold  
(Center Publication, DTIC AD# A101-785)  
*Psychopharmacology (in press)*

**Abstract:** The effects of a short-acting benzodiazepine hypnotic, triazolam (0.5 mg), on sleep, performance, and arousal threshold were assessed in 20 male poor sleepers (age  $21 \pm 2.37$  years). Following a laboratory screening night, all subjects received placebo for 3 nights (single-blind) 10 received triazolam and 10 placebo for 6 nights (double-blind), and all received placebo on 2 withdrawal nights (single-blind). All effects described below were statistically significant. Triazolam reduced sleep latency and increased total sleep time and sleep efficiency. Stage 2 $\alpha$  was increased and Stage 4 was reduced during treatment. Morning performance, measured 8.25 hours post-drug, showed no decrements. Acute effects were assessed on the 6th treatment night during arousals from sleep at 1.5, 3, and 5 hours post-administration: performance was impaired in triazolam subjects on the Wilkinson 4-Choice Reaction Time Test, Digit Symbol Substitution Test, Williams Word Memory Test, and Card Sorting Task. In the morning following the 6th treatment night, long-term memory was tested using a recognition task requiring subjects to identify words presented during nighttime test batteries: triazolam subjects correctly identified fewer target words. Triazolam administration produced anterograde amnesic effects. But, in a Paired Associates Test learned prior to drug ingestion on the previous evening, triazolam did not impair morning recall of word pairs. Threshold for arousal from slow wave sleep was elevated during treatment, and triazolam subjects did not show increased sensitivity to the arousing tone over nights as did placebo subjects.

81-2 JOHNSON, LC & CL Spinweber

(MR041.01.003-0157)

(U) Effects of a Short-Acting Benzodiazepine on Brain Electrical Activity  
(Center Publication, DTIC AD# A101-786)  
*EPI & Clinical Neurophysiology*, 1981, 52(1), 89-97 (AD# A101-786)

**Abstract:** The effects of the short-acting benzodiazepine, triazolam, on EEG activity during sleep were assessed in poor sleepers. Twenty male subjects, mean age  $21 \pm 2.37$  years, participated. A screening night preceded 3 placebo nights, 6 treatment nights, and 2 placebo-withdrawal nights. During treatment, 10 subjects received triazolam (0.5 mg) and 10 received placebo. The treatment condition was double-blind. In addition to rate/min spindle count and number of delta half-waves/min, the auditory evoked response (AEP) was obtained on the last placebo baseline and the fifth drug night.

Subjects receiving triazolam showed a significant increase in sleep spindles and a significant decrease in delta count during drug administration. Both values returned to baseline on the first withdrawal night. The AEP peak-to-trough amplitude was also significantly reduced during sleep by triazolam, but, as the time since drug ingestion increased, the amplitude of the AEP also increased. There was no difference in AEP amplitude between the two groups 5 hr post-drug ingestion.

81-3 HERMANSEN, L & WM Pugh

(ZF58.524.023-2014)

A System for Monitoring Employee Health in a Navy Occupational Setting  
(Center Publication, DTIC AD#A100-064)

**Abstract:** In response to a variety of requirements to document and monitor employee health in occupational settings, a medical treatment reporting system was developed and tested for 12 days at a Navy dispensary. A fundamental component of this system was an encounter form which documented the patient's background, visit status, symptoms, treatment, disposition, and diagnoses. These data were stored in an electronically accessible format and a series of previously programmed analyses were conducted to demonstrate potential uses of the data. As presently configured, the system would be beneficial in helping dispensaries meet present reporting requirements, but overall efficiency could be improved by use of an interactive terminal for data input.

\* Interested readers may obtain a copy of any report by addressing a request card to the senior author, Naval Health Research Center, P.O. Box 85122, San Diego, CA 92138-9174. There may be some delay with reports of higher numbers, because of time needed for journal review, refereeing, process of publication, and procurement of reprints.

- 81-4 SANBORN, WR; M Schlumber, YA Alzouma & R Triau (M0095-PN.002-5048)  
A Mobile Surveillance System for Cerebrospinal Meningitis Control in Remote Rural Areas  
(Center Publication, DTIC AD# A108-992)  
Laboratory, 1981, 71(425), 547-558

**Abstract:** Effective use of specific vaccines to control epidemic cerebrospinal meningitis requires early, precise etiologic diagnosis of cases. However, since the first cases often occur in areas remote from medical laboratories, etiologic diagnosis is seldom possible. A portable laboratory kit has been developed for rapid diagnosis of infectious diseases, including cerebrospinal meningitis, under field conditions, and the logistics of administering meningococcal vaccines have been simplified by using jet injectors and stabilized meningococcal vaccines. A system employing these components for rapid diagnosis and vaccination was field-tested in Upper Volta with transport by a light plane. The 1979 cerebrospinal meningitis epidemic was found to be due mainly to Gr. C meningococci, but other etiologic agents were also identified. Thus, Gr. C vaccine was used and therapy for other infections could be made consistent with rapid diagnostic test results. This rapid diagnosis and vaccination system may provide a suitable model for control of cerebrospinal meningitis epidemics in the rural areas of many countries.

- 81-5 KOLB, D & EKE Gunderson (M0096-PN.001-1034)  
A Longitudinal Study of Health Risks Associated with Alcohol Abuse in Young Navy Men  
(Center Publication, DTIC AD# A101-787)  
Drug and Alcohol Dependence, 1981, 8, 131-141

**Abstract:** Hospital admission histories were compared for groups of alcohol abusers and controls who entered the Navy in 1970 or 1971 and who reenlisted. The histories extended over a six- to eight-year period. The alcohol abuse group had a significantly higher mean number of hospital admissions and days hospitalized for conditions other than alcoholism than did the controls. Differences in frequencies of illnesses between the two groups were apparent during the first year in service and continued throughout the study period. Highest rates of illness in both groups were reported for Accidents, Poisonings, and Violence, Diseases of the Respiratory System, Infective and Parasitic Diseases and Diseases of the Digestive System. Mental Diseases were a major cause of morbidity in the alcohol abuse group but not in the control group. Differences in illness rates were related to identification as alcohol abusers rather than to differences between abusers and controls in education, aptitude, or age at enlistment.

- 81-6 BOOTH, RF & MS McNally (M0096-PN.001-1031)  
Individual Characteristics, Work Assignments, and Job Satisfaction of Navy Hospital Corpsmen

**Abstract:** Relationships among individual characteristics, work assignments, and job satisfaction were evaluated for 776 Navy hospital corpsmen (HMs) who had been on the job for approximately two years. Ability, interest in health care work, and personality characteristics were related to first enlistment work assignments received by HMs. Substantial work setting differences also were found to affect job satisfaction of HMs; the most satisfying positions were located in relatively clean and spacious facilities, provided more frequent contact with health care professionals, and involved more complex and challenging work activities. The perceived satisfactoriness of particular work assignments was related to an HM's own characteristics. Administrative support positions, particularly those located in medical centers, appeared to be most affected by congruence between individual characteristics and job demands. This finding suggested the need for special procedures to identify individuals with the greatest potential for adjusting satisfactorily to an administrative work role.

- 81-7 FERGUSON, JC; MS McNally, & RF Booth (MF.58.524.022-0008)  
Accidental Injuries among Naval Personnel by Occupation, Duty Status, and Pay Grade

**Abstract:** The relative incidence of accidental injury for Navy enlisted men during 1974 through 1977 was analyzed for 68 occupations, three pay grade or job responsibility levels, and duty status (on or off duty) at the time of the injury. Twelve "blue-collar", predominantly sea-going or construction occupations, were significantly higher than the Navy injury rate norm and 24 "white-collar" occupations, typically in clerical, supply, administrative, or technical specialties, were significantly lower than the Navy norm. An inverse linear relationship was found between injury rate and job responsibility for all occupations combined. This relationship varied by occupation, however, suggesting that experience and familiarity with the work environment may not

moderate risks to the same degree in all occupational fields. Occupations with high on-duty injury rates tended to have high off-duty rates as well, suggesting at least some common causal factors.

- 81-8 NAITOH, P; AN Beare, RJ Biersner & CE Englund (MF58.524.002-9026 & 9023)  
Altered Circadian Periodicities in Oral Temperature and Mood in Men on an 18-Hour Work-Rest  
Cycle during a Nuclear Submarine Patrol  
(Center Publication, DTIC AD# A102-590)

**Abstract:** A group of nuclear submariners was studied to examine whether an 18-h routine imposed by a watch-standing schedule of 6-h on, 12-h off during a prolonged submerged patrol affected the 24-h circadian rhythm in oral temperature, Thayer's activation, Mood "Activity" and Mood "Happiness". The submariners were observed during three sections of the patrol: Phase 1, the beginning 8-day period; Phase 2, the middle of the voyage; and Phase 3, the last 7-8 day period of the 10-week voyage. The group-synchronized 24-h rhythm in oral temperature disappeared during Phase 3. The group-synchronized 24-h rhythms in Thayer's activation and in Mood "Activity" and "Happiness" disappeared during Phases 2 and 3. A group-synchronized 18-h rhythm was not produced in any of the variables in any Phase of this study, except MH during Phase 2. Periodicity analysis of individuals' data showed that a loss of 24-h rhythmicity in oral temperature was due not only to reduced circadian amplitude but also to a dispersion of TOPs. Loss of 24-h rhythm in "Activation", "Happiness", and "Activity" was predominantly due to a wider dispersion of TOPs. The 18-h routine did appear to exert a small modulating effect on rhythmic activity in the variables examined in this study. Since the sleep-wakefulness cycle was well entrained by the 18-h routine, the submariners experienced a spontaneous internal desynchronization between the activity cycle on the one hand and the cycles of oral temperature and psychological states on the other. The performance and health consequences of this chronic dyschronism have yet to be explored. We suggest further research to determine the usefulness of an index of synchronization among the physiological and psychological variables, and the relationship of the desynchronizing effects to performance.

- 81-9 NAITOH, P & GW Lewis (M0099-PN.003-3201)  
Statistical Analysis of Extracted Features  
In: N Yamaguchi & K Fujisawa (eds), *Recent Advances in EEG and EMG Data Processing*,  
Amsterdam: Elsevier/North Holland Biomedical Press, 1981. pp 179-194

**Abstract:** Univariate and multivariate statistical analyses are applied to spontaneous awake/sleep EEGs and ERPs in studies of relationships between (1) spectra and reaction time, and (2) visual ERPs and AFQT scores. Stepwise discriminant analysis has been suggested to be most appropriate to enhance our understanding of EEGs and ERPs as they are related to job performances.

- 81-10 BUTLER, MC & PT Bruder (MR000.01.01-8002)  
Life-Stage Career Concerns among MSC Officers: Dimensions and Occupational Medicine  
*U.S. Navy Medicine*, 1981, 72(4), 13-18 (DTIC AD# A101-788)

**Abstract:** Life stage and career concern issues regarding job perceptions, future-oriented considerations, and nonwork life were assessed from 1386 Navy Medical Service Corps officers. Analysis of these data revealed seven life stage, career concern dimensions labelled Career Advancement, Individual Growth, General Economics, Geographic/Community, Family, Retirement, and Sponsor, Education, and Training. Significant differences on these measures were found between occupation group (Health Care Administration, Clinical Care Specialist, and Science and Technology Specialist) and for different career stages (junior, middle, or senior grade officer). Implications for career planning and job enlargement in military settings are discussed.

- 81-11 BRUDER, PT; MC Butler & WW Knox (MR000.01.01-8002)  
Junior MSC Officer Attitudes toward Operational Assignments  
*U.S. Navy Medicine*, 1981, 72(3), 9-11 (DTIC AD# A102-592)

**Abstract:** This article addresses the area of operational assignment of junior MSC officers. Independent raters categorized responses to open-ended questions concerning the timing of such assignments, perceptions of other officers within a specialty area regarding such assignments, and the degree to which the individual looks forward to operational tours. Positive, neutral, and negative responses were clustered and compared by professional specialty area, level of education, family status, family support, and career intention. Results are discussed in terms of motivation for membership in the naval service, personal and professional self concepts, and perceived success in career pursuits.

81-12 BRUDER, PT & MC Butler (MR000.01.01-8002)  
The Medical Service Corps Officer Survey: Who responded?  
*U.S. Navy Medicine*, 1981, 72(2), 3-5 (DTIC AD# A101-789)

**Abstract:** In April 1980, MSC officers worldwide participated in a survey designed to assess attitudes and aspirations pertinent to their naval careers. Following many months of preparation, with reviews by MSC Specialty Advisors and the MSC Division (BUMED), a mail questionnaire was sent to each of the 1,49 MSC officers on active duty at that time. The substance of the questionnaire pertained to the officers' occupations, their particular jobs and the environments in which they are performed, and to their personal interests as well as family needs. The officers' opinions about different types of assignments, training, and other related career development issues were also sought. This article is the first in a series to be published in *U.S. Navy Medicine* during the months ahead in which profiles of opinion derived from that survey will be highlighted and discussed.

81-13 JONES, AP; DS Main, MC Butler & LA Johnson (ONR RR042-08-01;  
Narrative Job Descriptions as Potential Sources of Job Analysis Ratings 61153N NR 170-915)  
(Center Publication, DTIC AD# A108-993)

**Abstract:** The present study investigated whether narrative job descriptions could be converted to quantitative rating scores using a traditional job analysis questionnaire. Detailed written descriptions of 121 jobs in a military health care facility were rated using the Position Analysis Questionnaire (PAQ). Indices of interrater agreement suggested acceptable levels of agreement for job dimension scores derived from these ratings. Further, when regressed against GATB abilities estimates, the job dimension scores produced values very similar to those reported by previous studies using the PAQ. Finally, cluster analyses of the 121 jobs suggested that the dimensions provided a viable means of grouping jobs into families. Potential users for data derived from narrative job descriptions are discussed.

81-14 KOLB, D & EKE Gunderson (MO096-PN.001-1035)  
Medical Histories of Alcohol Abusers and Controls during the First Twelve Years of Naval Service (Center Publication, DTIC AD# A101-790)

**Abstract:** Hospital admission histories were compared for groups of alcohol abusers and controls over a 12-year period. A larger proportion of the alcohol abuse group than control group was hospitalized during the study period, and the abusers had a higher mean number of both hospital admissions and days hospitalized per year than the controls. Reasons for hospitalization were similar in the two groups with highest rates recorded for Accidents, Poisonings, and Violence, Digestive System Diseases, Respiratory System Diseases, and Skin and Subcutaneous Tissue Diseases. Mental disorders were a major cause of morbidity in the alcohol abuse group but not in the control group. The differences between the groups appeared to be related to the abuse of alcohol rather than to any differences in demography or aptitude test scores.

81-15 VICKERS, RR; MA Haight, MT Wallick & TL Conway (MO096.PN001-1035)  
Determinants of Sickness in Marine Recruits: A Replication  
(Center Publication, DTIC AD# A104-815)

**Abstract:** Previous observations of differences in illness rates among Marine Corps basic training platoons suggested that a general factor such as emergent social climate within the platoons might affect these rates. This conclusion has potentially important epidemiological implications, but the findings may have been influenced by methodological factors in the initial research. The present study attempted to replicate the earlier findings with procedural modifications intended to reduce the possible impact of methods factors. Data were recorded from the health records of recruits in two samples of platoons. Analysis of variance indicated that overall illness incidence was significantly related to platoon, period of training, type of illness, and an interaction between platoon and period of training. Illness incidence rates in different diagnostic categories tended to be correlated suggesting the effect of a general factor. This correlation was limited primarily to two periods late in the training cycle. Therefore, while the overall results replicated the major findings of the earlier study, the conclusion was modified. A general factor such as platoon climate may affect illness, but possibly only at points in the training cycle where more traditional factors such as pathogen exposure and unusual physical exertion are not major considerations.

81-16 MUZET, A; LC Johnson & CL Spinweber (MRO41.01.003-0157)  
Benzodiazepine Hypnotics Increase Heart Rate During Sleep  
(Center Publication, DTIC AD# A104-063) Sleep, (in press)

**Abstract:** Intravenous administration of benzodiazepines as preoperative sedatives produces cardiovascular changes including a short-lived elevation in heart rate (HR). Bedtime oral administration of triazolam (0.5 mg) and flurazepam (30 mg) was found to cause a HR increase of similar magnitude which was present during the first 4 hours of sleep. This peripheral effect was unexpected in view of the CNS sleep-promoting properties of benzodiazepine hypnotics.

81-17 JOHNSON, LA; AP Jones, MC Butler & D Main (ONR)  
Assessing Interrater Agreement in Job Analysis Ratings  
(Center Publication, DTIC AD# A108-994)

**Abstract:** The present study explored the reliability of quantitative job analysis scores derived from detailed narrative job descriptions. Descriptions of 25 different jobs in a medium-sized military hospital were scored by four trained raters using the Position Analysis Questionnaire. Interrater agreement was assessed using a number of common indices. These indices suggested general agreement on the ratings, but differences were noted in the estimates produced. Reasons for such differences were explored and recommendations were made for avoiding potential difficulties in assessing interrater agreement on job analysis ratings.

81-18 HOIBERG, A (M0099-PN.001-1163)  
Occupational Stress and Illness Incidence  
(Center Publication, DTIC AD# A104-017)

**Abstract:** This study examined hospitalization rates for 10 stress-related illnesses among Navy occupational groups during four phases of a 30-year career and identified possible reasons for differences in health risks among occupations and career phases. Results of this longitudinal study, which covered 11 years and included an initial population of 184,122 male Navy enlisted Caucasians, showed that men assigned to Hospital Corpsman and Mess Management Specialist (culinary work) categories had the highest health risks for stress-related illness during nearly all phases or decades of a Navy career. Other groups with elevated hospitalization rates included Construction/Manufacturing, Deck, Ordnance, and Engineering/Hull whereas the lowest rates were observed for Miscellaneous/Technical, Electronics, and Administrative/Clerical. The highest hospitalization rates for stress-related diseases were evidenced during the third decade. Job stress scores were computed from ratings of environmental characteristics, occupational stressors, and career considerations; high scores on these dimensions tended to be associated with increased illness. Implications of these results for prevention programs were discussed.

81-19 JOHNSON, LC & DA Chernik (MRO41.01.003-0157)  
Sedative-Hypnotics and Human Performance  
(Center Publication, DTIC AD# A108-297)  
Psychopharmacology, (in press)

**Abstract:** This paper reviews the published papers that involved presleep ingestion of hypnotics and administration of performance tasks the next day. To be included, studies had to have employed statistical analysis of drug vs. placebo performance and used a marketed hypnotic. Fifty-two studies met all criteria. The study subjects were primarily young noninsomniac males. Insomniacs were studied in only 8 studies. Eleven benzodiazepines, 7 barbiturates, and 7 "other" hypnotics were administered in one or more studies.

The major conclusions are as follows:

1. Different performance tests are differentially sensitive to the effects of sedative-hypnotics, and this pattern of sensitivity over tasks appears to be relatively similar for all types of sedative-hypnotics.
2. The majority of the performance studies has focused on psychomotor measures of performance. Little consistent data are available on cognitive functioning and more complex human behaviors.
3. Drug-related improvement in daytime performance was not found and, in comparing active drug to placebo, it is clear that all hypnotics (at some doses) produce decrements in performance the next day after nighttime ingestion. Because of the few studies reported, this conclusion is not as clear-cut in insomniacs as compared to normals.
4. When multiple dose levels of a given drug were examined in a given study, consistent dose differences were found. High doses more consistently showed a decrement when compared with placebo

performance than lower doses.

5. The half-life data are less clear than those for dose level. Although long-acting drugs generally show more decrement, correlations between serum levels as measures of half-life and performance effects were not consistently found, but such data were rarely reported.

Overall, our findings clearly indicate that taking any of the currently available sedative-hypnotics will not cause the next day's performance to excel over that when a placebo is taken. Sedative-hypnotics generally improve the quality of sleep, but not the quality of daytime performance. Depending on the dose level, the price of "better" nighttime sleep may be poorer daytime performance.

81-20 EDWARDS, EA; IA Phillips & WC Suiter (M0095-PN.002-5044)  
Diagnosis of Group A Streptococcal Infections directly from Throat Gargle  
(Center Publication, DTIC AD# A104-813)  
*Journal of Clinical Microbiology*, (in press)

**Abstract:** The diagnosis of group A streptococcal disease still relies on isolation on sheep blood agar followed by presumptive identification of group A streptococcal strains by using bacitracin sensitivity or the more precise sero-grouping methods such as the Lancefield precipitin test. A technique that would permit rapid identification of streptococcal infections directly from throat secretions would allow immediate appropriate antimicrobial therapy in the management of streptococcal infections. We have been able to identify soluble Group A antigen directly from throat gargle by using a latex aggregation test. In a clinical trial using latex (Streptex group A) 53 throat culture/gargles were taken, 31 of 53 were culture positive, and 29 of 53 were latex positive for group A Streptococcal antigen.

81-21 BRUDER, PT & MC Butler (MR000.01.01-8002)  
Attitudes Toward Professional Specialization  
*U.S. Navy Medicine*, 1981, 72(5), 10-13 (DTIC AD# A104-855)

**Abstract:** This report expands the concept of education and training requirements for junior and mid-level Medical Service Corps officers by examining the need to develop a high degree of specialization in a particular interest area. Questions concerning when specialized training should occur and who might benefit most from such training were addressed in terms of occupational category, age, organizational level, and procurement source of the respondents. Briefly, results indicate that interest in specialization declines over time, is greatest among junior officers, and did not differ by procurement source. Additionally, Allied Science Officers viewed themselves as considerably more specialized than Health Care Administrators. Implication for the timing of specialty training in the larger context of career planning are discussed.

81-22 BUTLER, MC; PT Bruder & AP Jones (MR000.01.01-8002)  
Organizational Commitment (MSC Survey Results)  
*U.S. Navy Medicine*, 1981, 76(2), 16-20 (DTIC AD# A104-811)

**Abstract:** Measures of organizational commitment, professional versus bureaucratic role orientation, job satisfaction, and retention intention were obtained from 1386 Navy Medical Service Corps officers. Analyses by occupational group (health care administrators, health science and technology specialists, and clinical care specialists) indicated higher levels of organizational commitment and bureaucratic role orientation among health care administrators, while levels of professional role orientation were highest among health science and clinical care specialists. Commitment and bureaucratic role orientation tended to increase with advancing seniority for each group, while professional role orientation declined only for administrative officers. When career status (regular versus reserve officer) was considered, regular officers generally evidenced higher levels of organizational commitment and bureaucratic role orientation and lower levels of professional role orientation than did their reserve officer counterparts. Expected positive correlations were found between commitment and bureaucratic role, job satisfaction, and retention intention, while negative relationships were seen between these latter two job attitudes and professional role orientation. Implications for career planning and development are discussed.

81-23 PALINKAS, LA & A Hoiberg (MF58.524.005-7039)  
An Epidemiology Primer: Bridging the Gap between Epidemiology and Psychology  
(Center Publication, DTIC AD# A104-733)

**Abstract:** As psychologists increasingly become involved in biomedical research, it is crucial that they understand the methods of biostatistics and epidemiology. Oftentimes, a difference in

terminology or methodology unique to epidemiologic research hampers the psychologist's efforts in addressing biomedical issues. This paper presents a precis of biostatistical and epidemiologic methods that might be unfamiliar to most research psychologists and attempts to explain the usefulness of mortality and morbidity rates and ratios, age-adjusted rates and measures of association such as relative risk, coefficients based on chi-squares, and attributable risk. From this explanation of epidemiologic techniques, it is concluded that the transition from psychological statistics to biostatistics and epidemiology requires little "re-tooling" for understanding and application.

- 81-24 PUGH, WM & DD Beck (MF58.524.002-2022)  
The Acquisition and Use of Morbidity Data in Naval Environments  
(Center Publication, DTIC AD# A108-366)

Abstract: One component of the Navy Occupational Health Information System being developed at the Naval Health Research Center is the medical monitoring subsystem. This component was designed to have the capacity to operate on a "stand alone" basis. As an independent system medical data would be gathered, stored, and retrieved to generate routine reports thus relieving medical personnel of some of their administrative burden. However, when operating as a component of the overall occupational health information system reports showing an individual's exposure to hazardous substance can be generated and periodic physical examinations of personnel working with hazardous materials can be automatically scheduled. Thus, a highly flexible system is being developed which can be shaped to meet needs that range from those of a dispensary at a Navy industrial facility to those encountered in the sick bay of a deployed ship.

- 81-25 HOIBERG, A (MO099PN.001-1163)  
Health Effects of the Mid-Life Years among Navy Enlisted Men  
(Center Publication, DTIC AD# A108-995)

Abstract: The purpose of this article is (a) to compare the overall hospitalization rates of Navy enlisted men during a second (N=30,393) and third decade (N=19,471) of a Navy career (the third includes the mid-life transition years); (b) to identify high risk occupational groups; and (c) to identify specific health problems associated with the mid-life years. Results show that third decade enlistees have considerably higher hospitalization rates than the second decade cohort for 10 of the 16 major diagnostic categories; the largest differences are observed for Endocrine, Metabolic, and Nutritional Diseases, Circulatory Diseases, Supplementary Classifications, and Diseases of the Digestive System. The high risk occupational groups include Hospital Corpsmen, Construction/Manufacturing, and Engineering/Hull during the third decade and Hospital Corpsmen, Mess Management Specialist, and Deck during the second decade. Specific diseases with relatively high rates during the mid-life years are ulcers, hypertension, ischemic heart disease, hernias, arthritis, pneumonias, bronchitis, hearing loss, and diabetes mellitus. Implications for the Navy Medical Department also are discussed.

- 81-26 JOHNSON, LC (MR041.01-003-0157)  
Effects of Anti-Convulsant Medication on Sleep Patterns  
(Center Publication, DTIC AD# A108-296)

Abstract: A review of the literature revealed few studies detailing the effects of anti-convulsants on sleep structure and pattern. Most studies have used barbiturates, and the effects of this class of drug appear to be the same whether the barbiturate is prescribed as an anti-convulsant or sedative-hypnotic. The same sleep changes are also found for the benzodiazepines used as a sedative-hypnotic and as an anti-convulsant. Acute studies indicate that anti-convulsants decrease REM sleep, while chronic ingestion decreases SWS, but total amount of NREM sleep is less affected. Sleep spindles usually are increased. An epileptic patient's sleep pattern is most likely to be more normal or stabilized after effective treatment. This normalization appears to be due to the control of nocturnal seizures, which previously disrupted sleep, rather than due to any effect of the anti-convulsant per se on sleep patterns.

- 81-27 HORD, DJ & MA Coultas (MF58.524.002-5029)  
Nonauditory Effects of a High Intensity Noise among Ground Crews at a Naval Air Station  
(Center Publication, DTIC AD# A108-996)

Abstract: Physiological, behavioral and subjective data were obtained from 14 ground crews considered possibly to be at risk for nonauditory effects of intense noise while working around jet aircraft. Fourteen matched control subjects, working in normal noise environments were given the

same test protocol. Brain stem evoked potentials, eye tracking behavior, balance, and nystagmus were compared between the groups and found to be nondiscriminating. In addition, subjective mood and perceived illness were compared and found to be the same in the two groups.

It was concluded that ground crew wearing the required ear protection devices do not show nonauditory effects of intense noise encountered on their jobs, and that within the confines of the variables studied, no evidence exists that current safety measures and standards are inadequate.

81-28 BUTLER, MC (M0106.PN.001-0002)  
Environmental Factors and Retention Decisions of Health Care Providers  
(Center Publication)

Abstract: The purpose of this study was to compare the relative influences of five major sets of variables (demographic, personality, job attitudes, perceived work environment, and supervisor-rated performance) to determine their separate and combined contributions in explaining individual retention decisions. The sample consisted of 163 lower level, military health care providers assigned to five branch clinics within the administrative jurisdiction of a larger Naval Regional Medical Center. The sample was further divided into high (n=46), undecided (n=49), or low (n=68) intention groups, based on an individual's stated intent to remain in the naval service.

A questionnaire designed to measure demographic, personality, job attitude and perceived work environment characteristics was administered voluntarily in small group sessions during normal working hours. Supervisor ratings of job performance, however, were obtained approximately six weeks following the collection of questionnaire data. Multiple discriminant analyses were conducted to identify significant between-retention-group discriminators drawn from each variable domain. These results were combined to produce a summary discriminant analysis which identified, across variable domains, those measures most strongly associated with turnover intention. This summary analysis produced two discriminant functions that significantly differentiated between turnover intention groups. The first function was bipolar in nature anchored by work-related variables at the positive end and need for independence at the negative end. The second function was also bipolar in nature (organizational tenure X personality), and maximally discriminated between high intent to remain and undecided groups. In addition, supervisor ratings of job performance were not found to be significant between group discriminators at the multivariate level. Additional research to validate these findings utilizing actual turnover data is recommended.

81-29 HERMANSEN, L & WM Pugh (MF58.524.023-2022)  
Use of an Automated Patient Record Aboard Ship  
(Center Publication, DTIC AD# A110-418)

Abstract: In the ship's dispensary medical data are typically gathered on individual patient visits. Because multiple visits may result from a single condition or multiple conditions may result in a single visit, some overt or covert process must be used to develop records of discrete illness episodes with accurate diagnostic information. In an effort to make this process explicit, a model of illness etiology was articulated, and a program based upon that model was developed. This program converted data on individual patient visits into meaningful records of illness or injury episodes. In addition, estimates of illness duration for specific diagnoses were incorporated into the model thereby allowing illness prevalence to be computed and plotted in terms of the percentage of the crew ill in any time period. Such a system should aid in the management of personnel resources.

81-30 PUGH, WM & DD Beck (MF58.524.023-2022)  
Implementation of a Prototype Registration and Administrative System for Field Use  
(Center Publication, DTIC AD# A110-417)

Abstract: A prototype medical monitoring system designed to collect and store dispensary data has been developed and is undergoing testing. Although this system is designed to function as one of several components of an overall occupational health information system, it can be used as an independent system for medical surveillance. The patient encounter form developed for this program is designed to obtain the information necessary to complete routine reports required from dispensaries including the Medical Services and Outpatient Morbidity Report and the Report of Occupational Health Services. In addition, automation of medical data helps to insure the efficient performance of routine functions such as the scheduling of physical examinations. Finally, when combined with the other components of the occupational health monitoring system, the contaminants an individual is exposed to can be accessed and used to aid in diagnosis.

- 81-31 CHAFFEE, RB (MF58.524.022-0013)  
Development of a Standard Navy Outpatient Mental Health Reporting System  
(Center Publication, DTIC AD# A110-416)

Abstract: The project described is an investigation of the usefulness of patient demographic and service delivery data collected from individual patient/clinician encounters in Navy outpatient mental health. Results of the pilot study indicate that service members in different pay grades are referred for distinctly different reasons and receive different services. A basic clinical data collection system was devised and is currently undergoing expanded field testing. Development of this system is described. Preliminary results indicate that data collection from individual patient/clinician encounters with data entry by clinicians is feasible with two qualifications: (1) the variables selected must be few and presented in a format that is quick and easy to complete, and (2) the data collected must be directly relevant to the reports generated and worth the effort of data entry to the clinicians involved.

- 81-32 SANBORN, WR (M0095-PN.002-5048)  
Development of Portable Rapid Diagnostic Microbiology Systems for Support of Primary  
Health Care Delivery

Abstract: Control of infectious diseases in developing countries is essential if social and economic progress is to be made. Accurate, definitive microbiological laboratory data are a prerequisite for infectious disease control. Medical laboratory services must become available to the people, especially children, even though the majority live in rural environments. Rapid microbiological diagnostic systems have been developed and incorporated into portable kits. The kit systems described here offer the potential of providing appropriate technology that can carry the advantages of medical laboratory science to the infectious disease patients wherever they may be.

- 81-33 MARCINIK, EJ (M0096-PN.001-1042)  
Sprain and Strain Injuries in the Navy: The Possible Role of Physical Fitness in their  
Prevention

Abstract: During the period July 1965 through December 1976, 5,584 Navy enlisted male personnel sustained sprain and strain injuries while on duty. Approximately 56% of these injuries involved the back, 37.5% involved the leg, and 2.9% represent arm and hand injuries. The total number of days hospitalized, i.e., non-effective days, compiled by Navy personnel during this time period was 82,451. Back injuries accounted for 54.5% of the total number of non-effective days. According to occupation, SN (Seaman) demonstrated the highest annual hospitalization rate for sprain and strain injuries (172.2/100,000). According to paygrade, E-1 showed the highest annual sprain and strain hospitalization rate (307/100,000).

- 81-34 FERGUSON, JC; MS McNally & RF Booth (MF58.524.022-0008)  
Causes and Consequences of Accidental Injuries to Navy Enlisted Personnel  
(Center Publication, DTIC AD# A110-415)

Abstract: This epidemiological study provided a broad analysis of the consequences of serious accidental injuries in terms of frequency and duration of hospitalizations, deaths, and physical evaluation board dispositions resulting in loss to the service. Those consequences were related to causes of injury, types of injury and duty status when the injury occurred. The study analyzed the medical records of Navy male enlisted men during the period 1974-1978. Results indicated that the majority of accidents resulting in hospitalizations, disability separations and deaths occurred from off duty accidents. Land transport and fractures were the leading causes and types of injury, respectively. The same four causes, land transport, falls, athletics, and machinery accounted for 61% of all hospitalizations and 94% of all disability separations, but the leading causes of death were dissimilar from those resulting in hospitalizations and disability separations. On duty, air and water transport and machinery accounted for more than 50% of total hospitalizations for those causes. The results were discussed in terms of guidelines for accident prevention programs and management supervision and control.

- 81-35 KOLB, D & EKE Gunderson (M0096-PN.001-1034)  
Alcohol-Related Morbidity among Older Career Navy Men  
(Center Publication, DTIC AD# A110-414)

Abstract: Hospital admission histories were compared for groups of Navy enlisted men identified as alcohol abusers or controls during the later years of their service careers. The alcohol

abuse group had a higher mean number of hospital admissions per year and a higher mean number of days hospitalized per year than did the control group. Highest admission rates for both abusers and controls were reported in two major diagnostic categories; Accidents, Poisonings, and Violence, and Diseases of the Digestive System. The rates for alcohol abusers exceeded those of controls in these and several additional diagnostic categories including Mental Disorders where the greatest disparity in rates of hospitalization was noted. The greatest differences in rates of specific illness between abusers and controls were observed for Cirrhosis of the Liver and Diseases of the Pancreas. Reasons for higher illness rates other than alcohol abuse were not apparent from available data.

81-36 PUGH, WM & DD Beck (MF58.524.1C2-0001)  
Preliminary Specifications for a Navy Occupational Health Information Monitoring System  
(NOHIMS) (Center Publication)

Abstract: The Navy Occupational Health Information Monitoring System (NOHIMS) is being developed to help coordinate various components of the Navy's occupational health program. The design of NOHIMS was based upon a comprehensive systems analysis of a Naval Air Rework Facility (NARF). This systems analysis identified (1) the types of data required, (2) the reference tables needed, (3) the reports to be generated, (4) the distribution of these reports, and (5) the appropriate actions to be taken in response to the reports. The planned implementation of NOHIMS as a semi-automated system that would be replaced by a fully automated system is discussed.

81-37 VICKERS, RR; TL Conway & MA Haight (MO096-PN.001-1035)  
Association between Levenson's Dimensions of Locus of Control and Measures of Coping and Defense Mechanisms

Abstract: Theoretically, locus of control may be related to coping and defense style. The hypothesis that external control would be related to higher defensiveness and internal control to better coping was tested in a sample of 2648 Marine Corps recruits using Levenson's Chance, Powerful Others, and Internal Control scales and 20 coping and defense measures developed by Joffe and Naditch. The two external scales were generally related to higher defensiveness and lower coping. These associations were particularly pronounced for Chance. Internal control was positively, but weakly, correlated to several coping scales. Internal control had mixed positive and negative correlations to defenses. The previously observed association of externality and poor adjustment may be based on low coping capacity combined with an externalizing (i.e., displacing, projecting) defensive style. Internals may fare better because of a slight tendency toward higher coping or because of a tendency to use a denying or reversing defensive style. These conclusions must be regarded as tentative, but provide a basis for further investigation.

81-38 JONES, AP; L Dutton & MC Butler (ONR RR042-08-01)  
When reward is punishment: How Health Care Support Personnel View Supervisor Action  
(Center Publication)

Abstract: The present effort investigated the reward or punishment value that Navy enlisted health care support personnel placed upon a number of supervisor behaviors. Behaviors viewed as either most rewarding or most punishing seemed to possess the following characteristics: (a) public display, (b) visible implications about the individual's worth to the organization, and (c) visible implication about the person's commitment to the organization. Some behaviors, especially those reflecting job enlargement, were viewed as reward by some respondents but punishment by others. General principles concerning the use of punishment and reward in organizations are reviewed.

81-39 HOIBERG, A & BG McCaughey (MO099-PN.001-1163)  
Collision at Sea: The Traumatic Aftereffects

Abstract: The objective of this longitudinal study was to examine the psychological effects of a collision at sea by comparing the subsequent performance and health patterns of the officers and crew of the USS BELKNAP (N-336) with those of the USS YARNELL (N-387) during a 3-year follow-up period. Results showed that there was a significantly greater risk of suffering a psychiatric hospitalization or a separation from service for psychiatric reasons among the officers and men of the disabled BELKNAP than was observed for members of the YARNELL. Other comparisons revealed no significant differences between the ships on subsequent numbers of promotions, demotions, unauthorized absences, desertions, and noneffective enlistees as well as on several precollision service-related or preentry variables. Within group comparisons showed that the postcollision group with

the least favorable prognosis was the uninjured group that was evacuated, returned to the ship, and then flown back to the U.S. Future disaster studies should be designed to evaluate the effectiveness of an early crisis intervention, such as the Special Psychiatric Rapid Intervention Team (SPRIT), in reducing long-term psychological effects.

81-40 EDWARDS, EA & RH Rahe (M0095-PN.002-5044)  
Some Immunobiological Changes in Recruit Personnel during the Early Phase of Recruit Training  
(Center Publication)

Abstract: Lymphocyte transformation and response to skin test antigens in Navy recruits were studied during the first 15 days of training to determine if there were significant changes in immune competence which could account for the high prevalence of ARD. Decreased response to skin test antigens at 24 hours was noted during the first 5 days. This response was normal from Days 9-15. In contrast, lymphocyte transformation was normal during the first 5 days but decreased significantly as illness scores increased. This documented decrease in immune response may be due to the stress factors involved in the transition from a civilian to a military environment.

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MANUSCRIPTS "in press"

|                                                                                                                                                                                                                                                                   | Report No. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| BUTLER, MC; JR Bruni & EKE Gunderson. Motivational Determinants of Illicit Drug Use; An Assessment of Underlying Dimensions and Their Relationship to Behavior<br><u>International Journal of the Addictions</u> (in press)                                       | 78-16      |
| GUNDERSON, EKE; RE Mitchell & RJ Biersner. Longitudinal Health Research in the U.S. Navy. In: S Mednick (ed), <u>Longitudinal Research in the United States</u> (in press)                                                                                        | 79-47      |
| HOIBERG, A. Military Occupations: The cutting edge for women? In: JK Arima (ed), <u>Military Psychology: The Cutting Edge</u> . Monterey: Naval Postgraduate School (in press)                                                                                    | 80-27      |
| HOIBERG, A. Meeting Personnel Needs. <u>Society</u> (in press)                                                                                                                                                                                                    | 80-32      |
| HOIBERG, A. Women in the Navy: Performance, Health, and Motherhood. In: J Brown, MJ Collins & FD Margiotta (eds), <u>Military Manpower Realities in the 1980s</u> . Boulder, Colorado: Westview Press, 1980 (in Press)                                            | 79-15      |
| HOIBERG, A & J Ernst. Motherhood in the Military: Conflicting roles for Navy women? <u>International Journal of Sociology of the Family</u> , (in press)                                                                                                          | 79-31      |
| JOHNSON, LC. Sleep Deprivation and Performance. In: WB Webb (ed), <u>Biological Rhythms of Performance in Sleep and Waking</u> . New York: Wiley (in press)                                                                                                       | 80-21      |
| NAITOH, P. Chronopsychological Approach for Optimizing Human Performance. In: F Brown & RC Graeber (eds), <u>Rhythmic Activity of Man</u> . Erlbaum & Assoc., (in press)                                                                                          | 80-9       |
| RAHE, RH. Developments in Life Change Measurement: Subjective Life Change Unit Scaling. In: B Dohrenwend & B Dohrenwend (eds), <u>Stressful Life Events</u> (in press)                                                                                            | 79-40      |
| RAHE, RH. Psychological Aspects of Coronary Heart Disease. In: RO Pasnau (ed), <u>Psychosocial Aspects of Medical Practice, Vol. II</u> . Menlo Park: Addison-Wesley Publishing Co., Inc. (in press)                                                              | 79-48      |
| SPINWEBER, CL. Plasma L-tryptophan Levels, Subjective Sleepiness, and Daytime Sleep. In: E Hartmann (ed), <u>L-tryptophan in Psychiatry and Neurology</u> . New Haven: Yale University Press, (in press)                                                          | 80-25      |
| WILKINS, WL. Psychological Correlates of Stress and Human Performance. In: EA Fleischman and EA Alluisi (eds), <u>Stress and Performance Effectiveness, Vol. III</u> . Hillsdale, NJ: Lawrence Erlbaum, (in press)                                                | 79-1       |
| ENGLUND, CE. The Diurnal Function of Reading Rate, Comprehension and Efficiency;                                                                                                                                                                                  | 79-28      |
| NAITOH, P; A Lubin & WP Colquhoun. Comparisons of Monosinusoidal with Bisinusoidal (Two-Wave) Analysis, and                                                                                                                                                       | 79-29      |
| NAITOH, P; CE Englund, J Moses & CL Spinwebber. Effects of Vigil on Human Circadian Rhythms: Normative Data. In: <u>Proceedings, XIV International Conference of the International Society for Chronobiology</u> . Hannover, W Germany, 8-12 July 1979 (in press) | 79-30      |

## 1981 PUBLICATIONS

## Report No.

- Bassily, S; ME KILPATRICK, Z Farid, et al.  
Chronic Salmonella Bacteriuria with Intermittent Bacteremia treated with Low Dose Amoxicillin or Ampicillin  
Antimicrobial Agents & Chemotherapy, 1981, 20, 630-633 None
- BOOTH, RF  
Factor Stability of the Comrey Personality Scales  
Educational & Psychological Measurement, 1981, 41, 309-314 (AD# A104-814) 78-40
- CONWAY, TL; RR Vickers, HW Ward & RH Rahe  
Occupational Stress and Variation in Cigarette, Coffee, and Alcohol Consumption  
Journal of Health & Social Behavior, 1981, 22, 155-165 (AD# A104-099) 79-32
- Farid, Z; S Bassily, ME KILPATRICK, et al.  
Urinary Schistosomiasis in Egyptian Farmers treated with Metrifonate (Bilarcil)  
Annals of Tropical Medicine Parasitology, 1981, 75, 459 None
- Griffith, WL; E Owens & EJ MARCINIK  
Pilot Inpatient Obesity Treatment Program  
U.S. Navy Medicine, 1981, 72(11), 1-5 None
- HODGDON, J; A Succi, B Roy, A Hazard & M Berenda  
A Study of Training at Altitude  
Med. Sci Sports Exercise, 1981, 13(2), 71-72 None
- HOIBERG, A; J Ernst & DE Uddin  
Sickle Cell Trait and Glucose Phosphate Deficiency. Effects on Health and Military Performance in Black Navy Enlistees  
Archives of Internal Medicine, 1981, 141, 1485-1488 (AD# A110-402) 79-46
- HOIBERG, A; S Berard & J Ernst  
Racial Differences in Hospitalization Rates Among Navy Enlisted Men  
Public Health Reports, 1981, 96(2), 121-127 (AD# A102-591) 78-49
- HOIBERG, A & J Ernst  
Cancer among Navy Personnel: Occupational Comparisons  
Military Medicine, 1981, 146(8), 556-561 (AD# A104-788) 79-57
- HOIBERG, A  
Meeting Personnel Needs  
Current News, 1981, Mar/Apr (Vol. 18) None
- HOIBERG, A  
Women and the World of Work - A NATO Symposium  
In: Committee on Family Research Gazette, 1981, 8. International Sociological Association  
EEO Newsletter (NOSC), 1981, Spring  
Yearbook of the NATO Science Committee, 1981 (September) (Abstracted) None
- KILPATRICK, ME; B Trabolsi, & Z Farid  
Levamisole Versus Mebendazole in the Treatment of Ancylostoma Duodenale  
Trans. Roy. Soc. Trop. Med. & Hyg., 1981, 75, 578-579 None
- KILPATRICK, ME; Z Farid, S Bassily, NA El-Masry, B Trabolsi & RH Watten  
Treatment of Schistosomiasis mansoni with Oxaminiquine-Five Years' Experience  
Am J Trop Med Hyg. 1981, 30, 1219-1222 None
- KOLB, D; P Coben & N Heckman  
Patterns of Drinking and AA Attendance following Alcohol Rehabilitation  
Military Medicine, 1981, 146(3), 200-204 79-37
- MARCINIK, EJ  
SPARTEN: A New Wave Fitness Program at RTC, SSC  
The Hoist, 12 November 1981 None
- NICE, DS; B McDonald & T McMillian  
The Families of U.S. Navy Prisoners of War from Vietnam Five Years after Reunion  
Journal of Marriage and the Family, 1981, 43(2), 431-437 (AD# A104-098) 80-6
- PUGH, WM  
A Regression Solution to the Problem of Criterion Score Comparability  
Applied Psychological Measurement, 1981, 5(1), 113-124 (AD# A104-100) 79-51
- SEALES, DM; RD Torkelson, RM Shuman, VS Rossiter & JD Spencer  
Abnormal Brainstem Auditory Evoked Potentials and Neuropathology in "Locked-in" Syndrome  
Neurology, 1981, 31, 893-896 (AD# A108-321) 80-8
- SPINWEBER, CL  
Daytime Effects of L-tryptophan  
Psychopharmacology Bulletin, 1981, 17(1), 81-82 80-3

- VICKEFS, RR; LK Hervig, RH Rahe & RH Rosenman  
Type A Behavior Pattern and Coping and Defense  
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- VICKERS, RR & L Hervig  
Comparison of Three Psychological Defense Mechanism Questionnaires 79-43  
Journal of Personality Assessment, 1981, 45(6), 630-638
- WILKINS, WL  
Military Psychology and its Disciplinary Neighbors  
In: JE Arima (ed), What is Military Psychology? Symposium Proceedings, Monterey:  
Naval Postgraduate School, July 1980. pp 45-49  
JSAS Catalog of Selected Documents in Psychology, 1981, 11, 26 (AD# A099-522) 80-36
- JOHNSON, LC  
On Varying Work/Sleep Schedules: Issues and Perspectives as seen by a Sleep  
Researcher, pp 403-417 79-45
- NAITOH, P: Circadian Cycles and Restorative Power of Naps, pp 693-720 80-11
- Banderet, LE; JW Stokes, R Francesconi, DM Kowal & P NAITOH  
Artillery Teams in Simulated Sustained Combat: Performance & Other  
Measures, pp 581-604 80-11  
In: NIOSH Proceedings: The Twenty-Four Hour Workday: Proceedings of a Symposium  
on Variations in Work-Sleep Schedules. Cincinnati: USPHS, NIOSH, Div. of Biomedical  
and Behavioral Science, July 1981. DHHS (NIOSH) Publication No. 81-127  
In: LC Johnson, DI Topas, WP Colquhoun & MJ Colligan (eds), Problems in Work-Sleep  
Schedules: Effects on Health and Performance; Advances in Sleep Research, Vol. 4. New  
York: Spectrum Press, 1981.



LT Marcinik Chaplain Bunce Dr. Hodgdon

Bicycle testing  
←before

after →



LCDR Bobby G. Bunce, CHC, USN, assigned as the Chaplain Representative for this command's Committee for the Protection of Human Subjects, on 1 May, from the Naval School of Health Sciences, San Diego, is being tested by LT E. J. Marcinik, MSC, USNR, of the Physical Fitness Program, NTC Bldg 272, before starting on a weight reduction program.



skin-fold testing



circumference testing



flexibility testing

During 1981 ...

Formal reports of research findings were reported at national, international, and regional meetings of scientific and medical societies:

AMERICAN PSYCHOLOGICAL ASSOCIATION, 89TH ANNUAL MEETING, LOS ANGELES, CALIFORNIA, 23-28 AUGUST

- "Career Decision Considerations for Health Professionals" - LCDR Butler (Chair)
- "Coping and Defense as Predictors of Attrition from Basic Training" (Vickers/Conway/Haight) - Miss Conway
- "Dimensionality of Locus of Control in Different Race Groups" (Vickers/Conway/Haight/Butler) - Miss Conway
- "Narrative Job Descriptions of Structured Job Analysis Information" (Main/Jones/Butler/Johnson) - LCDR Butler
- "Organizational and Career Orientations among Military Health Care Professionals" (Butler/Bruder) - LCDR Butler
- "Organizational and Individual Factors Contributing to Socialization in Basic Training" - Ms Hervig
- "Organizational Climate and Attrition in Basic Training" (w/Vickers) - LT Wallick
- "Organization Effectiveness: Productivity and Quality of Worklife" - LCDR Butler (Chair)
- "Relationships between Work Environment Perceptions, Turnover Intentions, and Job Performance" (Butler/Jones) - LCDR Butler

ASSOCIATION FOR PSYCHOPHYSIOLOGICAL STUDY OF SLEEP, HYANNIS (CAPE COD), MASS., 17-21 JUNE

- "Time Course of Effects of Triazolam on Performance Measured during Arousals from Sleep" (Spinweber/Johnson) - Dr. Spinweber
- "Effect of Benzodiazepine Hypnotics on Heart Rate during Sleep" (Johnson/Muzet/Spinweber) - Dr. Johnson

AMERICAN COLLEGE OF SPORTS MEDICINE, MIAMI BEACH, FLORIDA, 26-29 MAY

- "A Study of Training at Altitude" (Hodgdon/Succo/Hazard/Roy/Berenda) - Dr. Hodgdon

AMERICAN SOCIETY OF MICROBIOLOGY, DALLAS, TEXAS, 2-5 MARCH

- "Comparison of Culture Media for Isolating Salmonellae from Zoo Animal Feces" (Meyer/Sanborn/Edwards/Hilfiker) - Mr. Edwards
- "Modifications which Increase the Sensitivity of Counterimmunoelectrophoresis" - Mr. Edwards

EARL I. JONES MEMORIAL SYMPOSIUM, LECTURE SERIES, NAVAL PERSONNEL RESEARCH & DEVELOPMENT CENTER, SAN DIEGO, CALIFORNIA, 30 JANUARY

- "Family Issues in the All-Volunteer Force" - Dr. Nice
- "Health and Performance of the All-Volunteer Force" - Ms Hoiberg

INTERNATIONAL SOCIETY FOR CHRONOBIOLOGY, 15TH INTERNATIONAL CONFERENCE, MINNEAPOLIS, MINNESOTA, 13-18 SEPTEMBER

- "The Effects of Moderate Physical Work on Chronopsychological Variables during Sustained Performance" - Dr. Englund

INTERNATIONAL SYMPOSIUM ON SLEEP AND EPILEPSY, MONTPELLIER, FRANCE, 6-8 JULY

- "Effects of Anti-Convulsant Medication on Sleep Patterns" - Dr. Johnson

INTERNATIONAL SYMPOSIUM ON RAPID METHODS AND AUTOMATION IN MICROBIOLOGY, THE 3RD, WASHINGTON, DC, 26-30 MAY

- "Detection of Group A Streptococcal Antigen from Throat Gargle by Enzyme labelled immunoassay (ELISA) and Coagglutination" (Edwards/Phillips/Suiter) - Mr. Edwards

scientific and medical societies cont.

INTERNATIONAL CONFERENCE ON EEG & EMG DATA PROCESSING, KANAZAWA, JAPAN, 12 OCTOBER

"Statistical Analyses of Extracted EEG Features" - Dr. Naitoh (Chairman of Special Topics)

INTERNATIONAL CONGRESS OF EEG & CLINICAL NEUROPHYSIOLOGY, THE 10TH, KYOTO, JAPAN, 13-18 SEPTEMBER

"Session Chairman: Psychophysiology" - Dr. Naitoh

OASD (MRA&L) & OUSDR&E (R&AT) WORKSHOP ON ATTRITION RESEARCH, THE RAND CORPORATION, SANTA MONICA, CALIFORNIA, SEPTEMBER

"Environmental Factors and Retention Decisions of Health Care Providers" - LCDR Butler

SAN DIEGO COUNTY NEUROLOGICAL SOCIETY, SAN DIEGO, 13 JANUARY

"Electrical Activity of the Sleeping Brain" - Dr. Johnson

SOCIETY FOR NEUROSCIENCE, LOS ANGELES, CALIFORNIA, 18-23 OCTOBER

"Effects of GABA Agonists on Well-established Amygdala-kindled Seizures" - Dr. Kalichman

WESTERN PSYCHOLOGICAL ASSOCIATION, LOS ANGELES, CALIFORNIA, 9-12 APRIL

"Blood Pressure Correlations to Workload and Mood as a function of Type A Behavior Pattern Characteristics" (Vickers/Conway/Hervig) - Ms Conway

"Invited to Serve as Chairperson for Paper Session on 10 April" - Ms Hoiberg

"Psychological Defense Mechanisms as Predictors of Moods in a Stressful Real Life Setting" (w/Vickers) - Ms Hervig

"Psychological Stress and Illness Behavior in Military Basic Training" (w/Vickers) - LT Wallick

"Race/Ethnic Group as a Moderator of Organizational Stress-Attitude Relationships" (Wallick/Vickers/Trice) - LT Wallick

"Supportive Leadership and Group Processes as Moderators of the Association of Stress and Attitude" (Wallick/Vickers/Ryman) - LT Wallick

III WORLD CONGRESS OF BIOLOGICAL PSYCHIATRY, STOCKHOLM, SWEDEN, 28 JUNE-3 JULY

"L-tryptophan: Daytime Effects on Brain Functions and Sleep" - Dr. Spinweber

23RD NAVY OCCUPATIONAL HEALTH WORKSHOP, VIRGINIA BEACH, VIRGINIA, 14-15 MARCH

NHRC attendees: Captain Lang, Dr. Gunderson & LCDR Ferguson

WORLD HEALTH ORGANIZATION, GENEVA, SWITZERLAND, 10-12 FEBRUARY

"Rapid Methods for Identification of Streptococcal Antigens in Acute Respiratory Diseases" - (Advisory Committee) - Mr. Edwards

PRESENTATIONS of research findings were made at colloquia and meetings at universities and medical colleges:

GROSSMONT COMMUNITY COLLEGE, 20 NOVEMBER (Psychology Department) - Dr. Johnson, "Sleep Disorders"

NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIFORNIA, JANUARY - LCDR Butler, "Organizational Contributions to Improving Health Care Delivery" (Colloquium Presentation)

SAN DIEGO STATE UNIVERSITY

Dr. Johnson, 12 February - "Sleep Disorders, Hypnotics & Hypersomnia"

Dr. Spinweber, 8 December - "Insomnia and Sleeping Pill Use" (Invited speaker to class of Theory and Process of Counseling)

SAN DIEGO STATE UNIVERSITY cont.

LCDR Butler, December - "Career Development and Turnover Decisions among Health Care Professionals" (Colloquium Presentation)

SAN JOSE STATE UNIVERSITY, SAN JOSE, CALIFORNIA

Dr. Spinweber, 11 March - "Effects of Hypnotics on Sleep and Performance" (Department of Psychology Colloquium)

UNIVERSITY OF CALIFORNIA AT SAN DIEGO, LA JOLLA

Dr. Spinweber, 5 May - "Sleep Disorders: An Interdisciplinary Approach" (Health Professions Program Lecture Series, Earl Warren College)

RESEARCH RESULTS, findings, were reported and discussions were led with hospital staff at these hospitals and clinics:

NAVAL REGIONAL MEDICAL CENTER, CAMP PENDLETON, CALIFORNIA

6 October, Medical Department Staff, "Final Research Project Results" - Dr. Nice  
Chief of Family Practice & Staff, "Feedback from Data Collection" - Dr. Nice  
October, "Patient Satisfaction in Family Practice and Primary Care Clinics" - LCDR Butler

NAVAL REGIONAL MEDICAL CENTER, SAN DIEGO, CALIFORNIA

28 January, Environmental Health Services, - Mr. Edwards  
25 August, (Basic Psychiatry Lecture Series), "Seminar on the Physiology of Sleep and Sleep Disorders" - Dr. Spinweber  
28 August, Environmental Health Service, "NOHIMS" - Dr. Gunderson  
11 September, Psychology Department Staff, "The Development of a Standard Navy Outpatient Mental Health Reporting System" - LT Chaffee  
23 September, Infectious Disease Branch, "Schistosomiasis" - CDR Kilpatrick  
2 October, Environmental Health Service, "Semi-automated Occupational Health Information System" - Dr. Gunderson  
October, "Formal and Informal Reward Systems in Ward Environments" Preliminary Results" - LCDR Butler  
20 November, "Suicide and Self-Destructive Behavior among Navy and Marine Corps Personnel" - LT Chaffee  
16 December, Infectious Disease & Pulmonary Medicine Branches, "Tuberculous Meningitis" - CDR Kilpatrick

NRMC BASE HOSPITALS & DISPENSARIES

2 February, Base Hospital, Medical Department, 29 Palms, "Interim Research Project Results" - Dr. Nice  
17 February, Naval Station Dispensary, San Diego, "Outpatient Mental Health" - LT Chaffee (Fleet Chaplains and Clinicians at the Chaplain Service)  
February, Marine Corps Base, 29 Palms, "Evaluation of Family Practice Versus Primary Care Approaches to Ambulatory Health Care Delivery: Initial Results" - LCDR Butler  
20 March, NTC Dispensary, San Diego, "Sleepwalking and Related Sleep Disorders" - Dr. Spinweber  
October, NTC Dispensary, San Diego, "Dimensions of Informal Reward Systems" - LCDR Butler  
23 November, NRMC Base Hospital, NAS Lemoore, C.O. & Medical Dept., "Final Research Project Results" - Dr. Nice  
November, Marine Corps Base, 29 Palms, "Final Results of Evaluation of Family Practice Versus Primary Care Approaches to Ambulatory Health Care Delivery" - LCDR Butler

NAVY MENTAL HEALTH PROFESSIONALS MEETINGS, 4TH ANNUAL; NAVAL REGIONAL MEDICAL CENTER, SAN DIEGO, 21-24 APRIL

"Suicide and Self-destructive Behavior among Navy and Marine Corps Personnel" - LT Chaffee  
"Sleep; Factors in Combat" - Dr. Johnson  
"Cold Effects on Physiological, Cognitive and Subjective Response during Combat" - Dr. Hord

HOSPITALS AND CLINICS cont.

SAN DIEGO COUNTY MENTAL HEALTH, OCEANSIDE, CALIFORNIA

16 July, "Sleep and its Disorders" - Dr. Spinweber (Professional Development Seminars)

SLEEP DISORDERS WORKSHOP, SAN DIEGO, 29 MAY (by NHRC's Clinical Psychophysiology Department & NRMC's Department of Psychiatry)

"Structure of Sleep and the Parasomnias: Sleepwalking, Night Terrors and Enuresis" - Dr. Spinweber  
"Sedative Hypnotics and Human Performance" - Dr. Johnson

UNIVERSITY OF CALIFORNIA, IRVINE

11 February, Pediatrics Department (Dr. Greene) - Mr. Edwards

REPORTS READ, DISCUSSIONS, or PRESENTATIONS at other congresses, centers, and local community media:

ARMED FORCES EPIDEMIOLOGICAL BOARD, SAN DIEGO (RDYAL INN), 29 JANUARY

"Navy Epidemiological Research in the 1980s" - Ms Hoiberg  
"Priorities and Strategies of Navy Epidemiologic Research" - Dr. Gunderson

NAVY FAMILY SERVICE CENTER WORKSHOP, SAN DIEGO, 21 APRIL

"Implications of Navy Family Research" - Dr. Nice

NAVAL REGIONAL OCCUPATIONAL HEALTH PROGRAM MANAGERS, VIRGINIA BEACH, VA, 16-18 SEPTEMBER

17 September, "NOHINS" - Dr. Gunderson

NAVAL ENVIRONMENTAL HEALTH CENTER, NORFOLK, VA

18 September, "NOHINS" - Dr. Gunderson

NATIONAL INSTITUTE OF HEALTH, BETHESDA, MARYLAND

6 October, "Project Sleep Workshop on Insomnia" - Dr. Johnson

NOGAWA CLINICS, KYOTO, JAPAN

16 September, "Discussion on Stochastic Analyses of Brain Waves" (including the topics of "coherent chaos" and "time-varying filter") - Dr. Naitoh

OFFICE OF NAVAL RESEARCH, PASADENA, CALIFORNIA

7 July, "Basic Research Planning Conference" - Dr. Gunderson

ROTARY CLUBS

Oceanside, Calif., 5 June, "Sleep Disorders: What Employers Need to Know" - Dr. Spinweber  
Chula Vista, Calif., 28 August, "Insomnia--Causes and Cures" - Dr. Spinweber

THE ARCTIC INSTITUTE OF NORTH AMERICA, BAUFF HYPOXIA SYMPOSIUM, 15 JANUARY

"The Effect of ten weeks Training at Moderate Altitude (2,400 m) on Young Female Distance Runner's Maximal Aerobic Capacity and Endurance Performance at Sea Level" (Sucec, HODGDON, Roy, Phillips & Berenda) - Dr. Sucec

CLAIREMONT HIGH SCHOOL, SAN DIEGO

7 January, "Psychology, Both a Science and a Profession" - Dr. Englund

KGB RADIO, SAN DIEGO, 27 DECEMBER

Dr. Englund - "Chronopsychology" (Newscast) and "Perspectives" (Radio Program)

## LINE BRIEFINGS

### DEPARTMENT OF DEFENSE

DOD, OSD (MRA&L) (MPP-PA&S), The Pentagon, Washington, DC

4 June, "Development of Optimal Physical Training Programs in the Navy" - Dr. Hodgdon & LT Marcinek

In attendance: Capt R. J. Fleeson, USN, Director, PA&S/OSD(MRA&L)(MPP); USA Colonels R. Dyer & R. Drews, OSD(MRA&L)(MPP-PA&S); OPS, -115 LCDR Dean & -115C Dr. Carroll; NMPC, 63A CDR Schnier, -63H ENS Imgrund; USAF, Col Brackett, Train. Progs Div (AF/MPP) and LtCol O'Conner; USA, Colonel Bedynek, DASG-PCS-M & LtCol Wener, DAMO)

### U. S. MARINE CORPS

Headquarters, Marine Corps, Navy Annex, Arlington, Virginia

2 June, Col Colassard, Dir., Training Div., & LtCol Woodburn & Majors Morgan & Langdon "Research Programs of the Environmental Physiology Department at Naval Health Research Center" - Dr. Hodgdon & LT Marcinek

"Organization and Ongoing Research at Naval Health Research Center" - LT Marcinek

Marine Corps Development & Evaluation Command, Quantico, Virginia

3 June, Major Melville, Training Officer & LCDR White, MSC Liaison Officer, "Research Programs of the Environmental Physiology Department at Naval Health Research Center" - Dr. Hodgdon & LT Marcinek

1st Marine Division (REIN)FMF, Camp Pendleton, California

5 August, Capt Browning, SMO, "Briefing of overall Environmental Physiology Program with particular emphasis on Human Effectiveness in Extreme Environments" - CDR Hall

### U. S. NAVY

Air Warfare, Recruit & Apprentice Training, Middleton, Tennessee

22 November, Capt H. D. Svoboda, USN, ACOS, "Development of Occupationally Related Conditioning Programs for Navy Personnel" - LT Marcinek

Armed Forces Radiobiology Institute, NNMCI, Bethesda, Maryland

29-30 June, Captain P. Tyler, Director, (at NHRC) "Briefing on Aviator Research" - Ms Hoiberg

CINCPACFLT & COMNAVSURFPAC, Naval Amphibious Base, Coronado, Calif.

1 May, Captain Holland, USN, CO, CINCPACFLT, and Captain Goode, MC, USN, Senior MO & LCDR Bulshazy, MSC, USN, AO, COMNAVSURFPAC, "Development of Strength Standards for Navy Jobs" - LT Marcinek

Commander, Naval Surface Force, Pacific (COMNAVSURFPAC), Naval Amphibious Base, Coronado, Calif.

23 October, Captain Goode, MC, USN, Senior MO & LCDR Bulshazy, MSC, USN, AO, "A Training Proposal for Fitness Maintenance on Board Ship" - LT Marcinek

Chief of Naval Technical Training, (at Naval Training Center, San Diego)

20 July, Linda Graham, Code 016 & E. Webb, "Briefing on Remedial Training Follow-up Research" - Ms Hoiberg

CNO, Navy Annex, Washington, DC

2 June, (OP-11, OP-15), "Development of Optimal Physical Training Programs in the Navy" - Dr. Hodgdon & LT Marcinek

In attendance: ADM J. B. Mooney, Jr.; ADM Selectree Hardington; OPs-15 Capt Bucher, -115 LCDR Dean, Dr. Carroll, Dr. Malehorn, -1500 Dr. Allison; NMPC -63 Capt W. E. Jackson, -63A CDR Schnier, CDR Steele, -65 CAPT Calleen; NMRDC -44 CDR Biersner

Bureau of Medicine and Surgery, Washington, DC

February, Captain P. Nelson, Chief, Medical Service Corps, "Medical Service Corps Study Results: Overview" - LCDR Butler

27 July, Captain N. Howard, MED-312 & CDR McCullah, MED-3123, "Current Status and Future Plans for Research in Navy Mental Health" - LT Chaffee

Environmental Preventive Medicine Units (at NHRC)

EPMU-5 San Diego, LCDR Conwille & EPMU-6 Hawaii, LCDR Cunnion, "Infectious disease Problems in Fleet Operations" - Mr. Edwards

Naval Air Development Center, Warminster, Pennsylvania

7 April, LT Dennis McBride, Human Factors Technical Development Office, "Sustained Ops Program Briefing" - Dr. Englund

Naval Civil Engineering Laboratory, Port Hueneme, California

2-6 November, "Briefing on Biomedical concerns of Extreme Environments as Projects related CEL" - CDR Hall

U.S. NAVY cont.

Naval Health Sciences Education & Training Command, Bethesda, Maryland

20 April-15 May, "Advances Health Policy and Planning Course" - CDR Berghage (attendee)

Naval Medical Research & Development Command, Bethesda, Maryland

7 January, Captain Kelly, "Operational Environments Program" - Dr. Hord

16 April, CDR Biersner, "Sustained Ops Project Briefing"(at NHRC) - Dr. Englund

Naval Military Personnel Command, Washington, DC

29 December, Capt WE Jackson (NMPC 63) & Capt D. Martin (NMPC N-6), "Telephone discussion and Briefing of a Program of Cardiac Screening and Exercise Conditioning Proposal" - LCDR Gray

Naval Postgraduate School, Monterey, California

23 July, Major C. Grubb, USMC, "Assistance in Development of an Extreme Environment (Cold) Graduate Level thesis research topic area" - CDR Hall

Naval Reserve, VTU 191

17 March, "Physical Requirements for Naval Shipboard Tasks" - Dr. Hodgdon

Naval Safety Center, Norfolk, Virginia

6 April, CDR Haselman & LT Fitzgerald (at Ballast Point Submarine Base, San Diego), "Briefing on Diver Research" - Ms Hoiberg

Naval Training Center, San Diego

6 November, "Circuit Weight Training Programs at RTC" - Dr. Hodgdon and "Development of Occupationally related Condition Programs for Navy Personnel" - LT Marciniak

In attendance: ADM Aut, Commander; CAPT Alexander, CO RTC Great Lakes; CAPT Wily, CO RTC SDiego; and CAPT Fernald, CO RTC Orlando.

Office of the Assistant Secretary of Defense, The Pentagon

22 July, Nora Garrote, Health Affairs (at NHRC), "Briefing on Women's Health Care Needs and the Military " - Ms Hoiberg

Policy Review Board for Women, The Pentagon

15 July, D. Kowal (at NHRC), "Briefing on Women and the Military" - Ms Hoiberg

Naval Personnel Research and Development Center, San Diego

9 September, D. W. Robertson, Director, Occupational Standards Dept., and NMPC-73 Captain W. E. Jackson, Director, Drug & Alcohol Abuse, (at NTC Bldg 272), "Proposal for Revised Navy Physical Fitness Testing Program" - LT Marciniak

Recruit Training Command, NTC, San Diego

6 May, LCDR V. W. Nibbs, Director, Technical Training, "Physical Requirements of General Shipboard Tasks in the Navy" - LT Marciniak

2 July, Capt Wiley, CO, & CDR Bruckner, XO, "An Evaluation of Recruit Physical Training Programs at RTC, San Diego" - LT Marciniak

5 August, Capt Higgins, CO, SSC, "Development of Aerobic/Circuit Strength Training Programs for Navy Women" - LT Marciniak

24 August, LCDR Romero, Director, Military Training; LT Sowers, Director, Support; LT Fichte, Legal Division; LT Moss, Curriculum & Instr. Standards, "Development of SPARTEN (Scientific Program for Aerobic and Resistance Training Exercise in the Navy)" - LT Marciniak

3 September, LCDR Nibbs, Director, Technical Training; LT Rubinkowski, Basic Military Orientation; LT Mayer, Director, Administration; LT Stephenson, Material Support Officer, "Development of Aerobic/Circuit Strength Training Programs for Navy Women" - LT Marciniak

OTHER OFFICES, DEPARTMENTS, ETC.

Canadian Embassy, Washington, DC

10 December, Charles Hubley, Counselor (at NHRC), "Overview of Clinical Psychophysiology Department Research Program" - Dr. Spinweber

#### COLLABORATION WITH OTHER RESEARCH FACILITIES

The Health Care Systems Department collaborated with the Department of Psychiatry staff of the Walter Reed Army Medical Center on military family stress and health care utilization. LCDR Butler met with CDR Paul Bruder of the Research Department, Naval School of Health Sciences, Bethesda, and members of the Department of Psychology, University of Wisconsin-Oshkosh. The focus of these meetings was on a continued study of Navy Medical Service Corps Officer retention and career development patterns.

Mr. Edwards, of the Biological Sciences Department, met with Dr. Green, Pediatrics Department, at the University of California, Irvine, in February, to discuss sampling procedures related to the rapid methods for detecting group B streptococcus in newborns. Of particular interest was the method of identification to be used and new approaches to concentrate bacterial antigen. LCDR Struempler, also of the Biological Sciences Department, with a member from the Naval Personnel Research and Development Center (NPRDC), to prepare and submit for approval, a joint NHRC-NPRDC DD-1498 designed to investigate mineral levels as related to recruit health and performance.

Dr. Johnson, of the Clinical Psychophysiology Department, collaborated as a co-investigator with Daniel F. Kripke, M.D., Sleep Laboratory, VA Hospital, San Diego, on a project supported by the Office of Naval Research (Contract ONR-N00014-79-C-0317) entitled "Sleep Loss Effects on Sustained Performance". Subjects are being studied during 42 hours of sustained continuous performance. The goal is to determine the relationship of valid sleep/wake schedules to performance impairment and to visual illusions which may occur during prolonged work. This research project will provide new information regarding factors which may affect performance in prolonged combat situations.

Drs. Johnson and Cheryl Spinweber collaborated with Dr. W. C. Dement and Mr. W. F. Seidel, of the Stanford Sleep Disorders Center, on a study assessing the effect of chronic use of benzodiazepines on the sleep EEG. This study seeks to further clarify the relationship between the half-life of benzodiazepines and the EEG and performance changes associated with use of these hypnotics. This project will provide information of use in our ongoing work on benzodiazepine hypnotics under our current DD-1498, MR041.01.003-0157.

Members of the Environmental Physiology Department research collaborations include Dr. Hodgdon and the Institute of Human Performance, Fairfax, Virginia. The focus of this collaboration, in February, is the physical fitness testing in support of an IHP *contact for task analysis of Marine riflemen in cold weather operations*. This work ties in with an ongoing IR work unit and future 1498 concerned with the cold. Dr. Hodgdon also worked with the Department of Physical Education at San Diego State University, on effects of autologous induced erythrocythemia on performance, hematology, and aerobic capacity. The SDSU work was during off duty hours.

Dr. Naitoh, of the Ergonomics Program, collaborated with Dr. Greg Lewis, of NPRDC, to start research on biomagnetism using a magnetoencephalogram with superconducting quantum interference device.

LT Marcink, of the Physical Fitness Program, met with the NPRDC researchers concerned with the development of strength standards for Navy occupational specialties. Data were collected onboard three Navy ships (USS Belleau Wood, LHA-3; USS Ranger, CV-61; and USS Ajax, AR-6) and from three NAS Miramar aviation squadrons (VS-231, VAW-117, and VF-114). Data from identified physically demanding tasks, interviews with job incumbents and force measurements with industrial dynamometers were taken. The collected data will be used to design task simulators for development of physical selection criteria for various Navy ratings.

Dr. Bord, of the Operational Environment Program, met with members of the Biology Department, of the University of Victoria, to discuss an ongoing project concerned with cognitive performance change during a 6-hour hike at low temperature in simulated rain and under control walking rates. This work is in support of work unit DD-1198 MR041.01.06A-0002. Changes in cognitive performance were measured along with oxygen consumption, heart rate, skin temperature, and core temperature during the hike through a wooded area on Vance ver Island. The "wet walk" project utilized data from 40 volunteers. The University of Victoria staff is responsible for the physiological data collection, and members of NHRC's Environmental Physiology Department are responsible for the cognitive test data collection. Dr. Bord also met with the Marine Corps Mountain Warfare Training Center, Bridgeport, California, in July, to discuss the possibility of a field study on the effects of cold on cognitive performance during combat training.

## PHYSICAL FITNESS RESEARCH

One area of research conducted by the Physical Fitness Program of the Naval Health Research Center is the Development of optimal physical conditioning programs for Navy personnel. This research comes in response to a Department of Defense directive ordering each military service to design physical training programs that meet the specific physical requirements of their personnel.

Current Navy physical training programs (OPNAVINST 6110.1A) emphasize primarily cardiorespiratory and flexibility development. The results of task analyses conducted by the Navy Personnel Research and Development Center, however, suggest that shipboard work requires muscularly demanding lifting, carrying, and pulling tasks.

Therefore, in an effort to develop strength abilities required for optimal job performance, as well as provide positive aerobic exercise, an aerobic/ system entitled SPARTEN (Scientific Program of Aerobic and Resistance Training) was increased.

Essentially, the SPARTEN fitness program consisting of running and circuit weight multi-station strength training machine. Specific strength conditioning exercises performed during an exercise session include the bench press, shoulder press, knee extension, hip flexion, pull-up, 2-arm curl, lat pull down, leg press, arm dips, and sit-ups. These exercises are designed to develop all of the major muscle groups of the body and closely simulate the basic body efforts involved in the performance of muscularly demanding shipboard work.

It appears that a combination of circuit weight training and aerobic conditioning would be most suitable for shore-based physical fitness development and maintenance programs. However, for shipboard fitness maintenance programs, where facilities for aerobic conditioning are limited, circuit weight training alone may serve to develop aerobic and strength abilities.

Ongoing research by members of the Physical Fitness Program include the evaluation of these SPARTEN programs for fitness development and maintenance. Presently, over 100 male and female, officer and enlisted Navy personnel are engaged in these fitness programs.

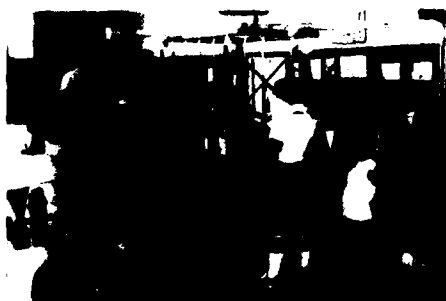
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On 11 September 1980, LT E. J. Marcinik, MSC, USNR, was appointed this command's Physical Fitness Program Officer, in accordance with OPNAVINST 6110.1A. On 19 October, LT Marcinik, held the Second Annual NHRC Physical Fitness Testing for all personnel under 40 years of age. Tests included a 1.5 mile or optional 3 mile run; sit-ups, push-ups, and an estimation of relative body fat.

Code 2530  
1650

"From: Commanding Officer, Recruit Training Command, Naval Training Center, San Diego, CA 92133  
To: LT Edward J. Marcinik  
Subj: Recruit Training Command "Iron Man" Award

1. NAVCRUITRACOMSDIEGOINST 6110.1A specifies that men earning 500 aerobic points over a ten week period will be awarded the Recruit Training Command "Iron Man" designation. Your earning of 1985 points between 1 October 1981 and 31 November 1981 qualifies you for your first designation as an "Iron Man".



Navy men and women from the Recruit Training Command and the Service School Command, San Diego, California, engaged in running and circuit weight training exercises of SPARTEN physical conditioning program.



Mr. Brown      ↑      Captain Lang  
Welcome and opening remarks.



Dr. Johnson      ↑      Mr. Brown  
Summary of NHRC's scientific programs.



↑  
Dr. Spinweber answering questions re sleep disorders.



↑  
CDR Sanborn after his presentation.

Visit of Peoples Liberation Army,  
Peoples Republic of China  
27 October 1981

The Chief of Naval Operations, Washington, D.C., notified this command that the Secretary of Defense had invited a group of 10 senior Military Medical Specialists from the Peoples Liberation Army of the Peoples Republic of China, to visit the U.S. during the period 14-29 October 1981. The Department of the Navy, Navy Foreign Liaison Division (CNO OP-009L) was designated executive agent for this visit by OSD/ISA. The visitors were escorted by personnel from the Chinese Embassy and DOD representatives.

The delegation from the Peoples Republic of China and their eight official escorts visited this command on Tuesday, 27 October. Command welcome and opening remarks were extended by Captain Lang, Commanding Officer, with Mr. James W. Brown, of the U.S. State Department, serving as interpreter. The Chief Scientist, Dr. Johnson, then gave a brief summary of NHRC's scientific programs which were followed by a question/answer period. The presentation was closed by CDR Sanborn, who presented his work on the development of a portable rapid diagnostic kit for infectious diseases. The command then hosted a luncheon for our distinguished visitors.



Portable rapid diagnostic kit.

U.S. Escorts: LTCOL Jerry D. Van Sickel, USAF, Assistant for China, OASD/ISA  
 LTC Jerry M. Brown, USA, Director, International (HA)  
 Dr. Sheridan H. Lee, Health Affairs Analyst  
 Mr. James W. Brown, U.S. Interpreter  
 LCDR David C. Hull, USN, Escort and Finance Officer

PRC Embassy Representatives: Mr. Xu Yimin, Defense Attaché, Embassy of the PRC  
 Mr. Feng Liesun, Assistant Defense Attaché, Embassy of the PRC  
 Mr. Chen Zhiya, Interpreter

Arrival of distinguished visitors.



1981.10.27

中国人民解放军代表团团长  
 中国人民解放军军医代表团团长 姜西长

Mr. (Zhang) Xiang, Director  
 Medical Dept., General  
 Logistics Dept (Head of  
 Delegation)

Deputy Director, Peoples  
 Liberation Army General  
 Hospital

Deputy Command, Second Military Medical College

Director, Institute of Microbiology and Epi-  
 demiology, Academy of Military Medical Science



Chief, Trng Div.,  
 Medical Dept.,  
 General  
 Logistics Dept.

Director, Insti-  
 tute of Naval  
 Medicine

Head, Surgical Department, Beijing Military District  
 General Hospital

Head, Neurological Department, Affiliated Hospital,  
 Fourth Military Medical College

Head, Medical Department, Air Force General Hospital

Associate Research Fellow, Academy of Military  
 Medical Science (Interpreter)

韩光 Han Guang

陈宁庆 N.Q. CHEN

李乃平 N.H. LIU

滕永成 M.C. TENG

徐少廷 Xu shaoTing

游国兴 You Guoxiong

赵宽 Zhao Kuan

刘广中 Liu Guangzhong

Sailor of the Quarter, for the periods were:

HM3 Cynthia Dixon, from the Environmental Physiology Department, for January-February-March;

HM3 Richard Canavaciol, from the Biological Sciences Department, for July-August-September, and

HMI Manuel C. Abroguena, from the Biological Sciences Department, for October, November and December.



HMI Abroguena

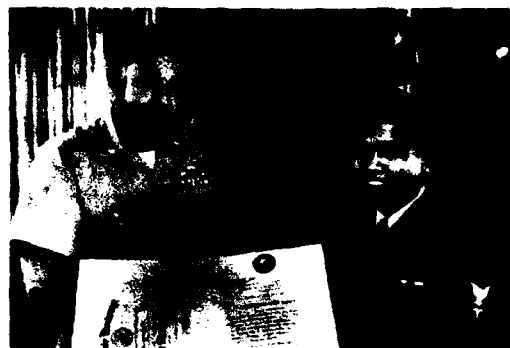
Captain Lang

Retirement(s)

HMC William Schuster, USN, of the Biological Sciences Department, transferred on 1 October after serving 23 years with the United States Navy, to the Fleet Reserve.

Re-enlistment(s)

HMI Renato Reyles, USN, assigned to the Biological Sciences Department, re-enlisted for three more years on 23 September.



LCDR White

HMI Reyles

Letters of Commendation to

LT E. J. Marcinik, MSC, USNR, 6 January, the Presidential Sports Award, from the President's Council on Physical Fitness and Sports.

LCDR R. E. Struempier, MSC, USN, 2 March, from the City of San Diego Police Department, commending him for the professional manner in which he reacted to a potential suicide incident on the Coronado Bridge resulting in dissuading the subject from jumping.

CJR M. Kilpatrick, MC, USN, 16 July, from the Commanding Officer, U.S. Navy Medical Research Unit #3.

The Environmental Physiology Department, from the Marine Corps Liaison Officer (LTCOL Bronson) NOSC, San Diego, for the visit of mentally gifted students from Palquist Elementary School in Oceanside to NTC's Physical Fitness Program.

Navy Commendation Medal

CDR W. R. Sanborn, MSC, USN, received the Navy Commendation Medal for meritorious service while serving as a microbiologist at NHRC, San Diego, from 7 September 1976 to 1 June 1981, by Captain Lang at the October 15th Scientific Colloquium.



Captain Lang

CDR Sanborn

#### Sports Awards

LT E. J. Marcinik, MSC, USNR, placed Second at the NTC's Annual Thanksgiving Cross Country Run (6.5 miles), and Fifth at the Commanding Officer's 2nd Annual 10 km Challenge Cup Run sponsored by the Navy Submarine Support Facility.

#### Advancements

LTJG E. J. Marcinik, MSC, USNR, was frocked to Lieutenant on 12 January.

LT M. C. Butler, MSC, USN, was frocked to Lieutenant Commander on 26 May.

HM2 S. Hilfiker, USN, was commissioned to Lieutenant (JG) in May.

HN J. Gillet was frocked to HM3, and HM3 R. M. Henney was advanced to HM2 at the December Awards Ceremony.



HN Gillet

HM3 Henney

Captain Lang

#### FOR THE CIVILIANS ...

Anne Hoiberg received letters of appreciation

- \* from the Commanding Officer, Navy Personnel Research and Development Center, for serving as co-chairperson of the Morris Janowitz Reception on 30 January;
- \* for research cited in a Brief presented before the Supreme Court of the U.S., 6 March;
- \* for serving as Associate Chairperson, Inter-University Seminar on Armed Forces and Society;
- \* for being a Member of the Women's Advisory Council of Naval Ocean Systems Center;

Recipient of certificates from the Department of the Navy, Prevention of Sexual Harrassment Training Program, for Course Manager; Training for Employee Course, and Training for Supervisory Course, 23-25 November.

Dr. Paul Naitoh was Session Chairman on "Special Topics" of the International Conference on EEG and EMG Data Processing, and Advisory Committee Member; Session Chairman on "Psychophysiology" of the 10th International Congress of EEG and Clinical Neurophysiology, Kyoto, Japan, 13-18 September.

Dr. Laverne C. Johnson was appointed as Member of the International Scientific Advisory Board of the Center for Design of Industrial Schedules, for 1981 to present.

Christine Colcord, before reporting to NHRC, attended the spring semester graduate course in the MBA program, "Statistics for Management Decisions", at the University of Colorado, Denver.

Dr. Allan Jones, Department Head of the Health Care Systems, resigned on 28 August, to take a new position in Houston, Texas.

#### Awards

An awards ceremony was held in December, preceding the monthly Scientific Colloquium at which time the following individuals received awards.

Environmental Monitoring Department, Code 40:



Capt. Tang Mrs. Anderson



Dr. Tang  
Frank  
Thompson



Doug  
Keith



Capt.  
Tang

Capt.  
Tang

Capt. Tang, Length of Service Awards (LSA) 35 Years Federal Service (FS), 10 Years NHRC

Frank Thompson, LSA 30 years FS, 20 Years NHRC

Doug Keith, LSA 10 Years FS, 10 Years NHRC

Capt. Tang, LSA 10 Years FS

Capt. Tang, LSA 10 Years NHRC

Capt. Tang, LSA 10 Years NHRC

Environmental Monitoring Department, Code 40:

Capt. Tang, LSA 10 Years FS, 10 Years NHRC

Environmental Monitoring Department, Code 50:



Capt. Tang

Mrs. Anderson



Capt. Tang



Ann Clark

Ann Clark

Ann Clark

Capt. Tang, LSA 20 Years NHRC

Ann Clark, LSA 20 Years FS, 10 Years NHRC; Sustained Superior Performance Certificate

Capt. Tang, Sustained Superior Performance Certificate



David Ryman, LSA 20 Years NHRC  
(Code 50)

David Ryman, LSA 10 Years NHRC Capt. Tang,  
(Code 60)

Environmental Physiology Department, Code 60:



Capt Lang

Bernice Norton

Linda Hervig

Bernice Norton: LSA 15 Years NHRC

Linda K. Hervig: LSA 10 Years NHRC; QSI Certificate

Not Shown: Don Irwin, LSA 10 Years NHRC; Louise Jarrett, LSA 5 Years NHRC; and  
Terry Conway, LSA 5 Years NHRC

Biological Sciences Department, Code 70:

Earl Edwards, LSA 20 Years FS



Capt Lang

Mr. Edwards

Office of the Commanding Officer & Administrative Services Department, Code 00 & 30

Brenda Crooks: LSA 15 Years NHRC;

Sustained Superior Performance Award



Capt Lang

Brenda Crooks

Not Shown: Don Beck, LSA 15 Years NHRC

Dwayne Castleberry, LSA 15 Years NHRC

1981 VISITORS \*

(OFFICE VISITED)

JANUARY

- 9 House Appropriation Joint Research Committee (Office of the CO (OCO))
- 20 B. L. Ryack, Ph.D., Naval Submarine Medical Research Lab, Groton (LT Chaffee)
- 22 Dr. Zigler, USSD (Chief Scientist (CS) & NTC 272 Staff)
- 26 J. Singer, Psychologist, Israel Defence Forces (Dr. Gunderson & Dept.)

FEBRUARY

- 8-10 LCDR Paul Bruder, MSC, USN, Naval School of Health Sciences, Bethesda (OCO & Cmd. 10)

MARCH

- 2 Dr. Dwight Culver, Department of Epidemiology, UC Irvine (Dr. Gunderson)
- 4 Dave Stoner, ONR (Dr. Johnson)
- 5 Eliot J. Pearlman, LTC MC, CO, U.S. Army Research Institute of Environmental Medicine, Natick (OCO & Environmental Physiology Dept)
- ICDR Richard Hilderbrand, MSC, USN, NMRI Toxicology Detachment, Wright Patterson AFB, Dayton, OH (CO & Biological Sciences Dept)
- 6 CDR P. Kriegler, Alcohol Rehabilitation Service, Long Beach (Environmental Medicine Dept)
- 30 Mr. D'Maggio, Naval Investigative Service (OCO)

APRIL

- 7 LT McBride (CO & CDR Berghage)
- 10 Tom Becker, Reporter, The Daily Californian, El Cajon (Environmental Physiology Dept)
- 15-21 CDR R. J. Biersner, MSC, USN, Naval Medical Research & Development Command, Bethesda (Command)
- 20 Captain P. D. Nelson, MSC, USN, Director, Medical Service Corps, Bureau of Medicine and Surgery, Washington, DC (OCO & Dept Heads)
- Dr. R. Purpura, Upjohn Co., Kalamazoo, Michigan & Mr. Warren Smith, Upjohn Co., Newport Beach, California (Clinical Psychophysiology Dept)
- 29 CDR P. Bruder, MSC, USN, Naval School Health Sciences, Bethesda (LCDR Butler)

MAY

- 1 CDR M. Parsons, MSC, USN, Naval Medical Research & Development Command, Bethesda (Command)
- Dr. Barchas, Stanford University (Dr. Vickers)
- 13 Larry Wilson, Office Assistant Secretary Manpower Reserve & Logistics; Editor, Defense Management Journal (Command)
- 14 Captain McManamon, Environmental Health Services, NRMCC San Diego (Dr. Gunderson)
- 19-22 Prof. J. Papavassiliou, Director, Dept. of Microbiology, Faculty of Medicine, University of Athens, and Colleague (CDR Sanborn & Command)
- 22 R. J. Nohr, Sandoz Pharmaceutical & Dorsey Labs, Poway (Dr. Johnson)
- 25 Ms Lynne Lamberg, American Medical Association, Consumer Book Program, Baltimore, MD (Dr. Johnson)
- 30 Dr. Peter Holzmam-Voigt, Research Foundation for Occupational Safety & Health, Stockholm, Sweden (Dr. Naitoh)

JUNE

- 2 Dr. Radomski, Defence & Civil Institute of Environmental Medicine, Downsview, Ontario, and Dr. Ackles, Attache, Science Research & Development, Canadian Defence Liaison Staff, Washington, DC (Command)
- 3 Mr. Grauman (OCO & Dr. Gunderson)
- 4-5 Dr. Jack Schmidt, Naval Medical Research & Development Command, Bethesda (Command)
- 5 Dr. Herschel Griffin, Associate Dean, School of Public Health, San Diego State University
- 8 LT Sam Forman, MC, USN, Long Beach (OCO & Dr. Gunderson)
- Major L. Korgstadt, Head, Army Family Research Program, Fort Benjamin Harrison (Dr. Nice)
- 9-11 Mr. Edman, Naval Medical Research & Development Command, Bethesda (Command)
- 11 Mr. Jepperson, WESTEC (AO, Dr. Gunderson, Dr. Jones, W. Pugh & D. Beck)
- 16 Dr. Steve Williams, School of Public Health, San Diego State University (Anne Reiberg & Dr. Gunderson)
- 22-24 John Coleman, Naval Audit Service (Command)
- 23 CDR Parsons, LT Foreman (NRMCC) & Admiral Lowry (Command)

\* It is conceivable that the above list of visitors to the command for the year 1981 may have some omissions, purely unintentional.

29 Captain Paul Tyler, Armed Forces Radiobiology Institute, NNMCI, Bethesda (Command)

30 Captain D. Blasi, CO, Naval Reserve Center, Wichita, Kansas (Shore Intermediate Maintenance Activity (SIMA)), Naval Station, San Diego (Dr. Nice)

JULY

15 M. Glickman & S. Gold, Global Health Foundation, Rockville, MD (Dr. Gunderson)

16 Dr. Remington, Dean, School of Public Health, University of Michigan, Ann Arbor (Lecturer, Ardie Lubin Memorial Lecture) (Command)

AUGUST

1 Dr. McKee, Director, National Research Council Associateship Program, Washington, DC (Command)

Yan Yafik (Dr. Johnson)

17 Dr. Erickson, NRMCI San Diego (CO)

27 CDR Bruder, Naval School of Health Sciences, Bethesda, MD (Anne Hoiberg & Dr. Gunderson)

28 Brig. General Garrison Rappmund, MC, Commanding, U.S. Army Medical Research & Development Command, Fort Detrick (OCO)

31 LCDR Larry Dean, MSC, USN, CNO (OP-115), Washington, DC (Command)

Major Grubb, Naval Postgraduate School, Monterey, Calif. (Dr. Ford)

SEPTEMBER

3 LCDR Gesh (OCO)

4 A. Burton & H. Moody, Environmental Health Services, NRMCI San Diego (Dr. Gunderson)

16 Emilia Costa, Specialista in Neuropsichiatria, II Clinica Psichiatrica, Universita di Roma, Italia (Dr. Spinweber)

21 LCDR Kelly, COMFITAEWINGTAC, Code 81 (LT Marcinik)

24 Dr. Lucien, NRC Postgraduate Council (OCO)

28 Major W. Boyle & Dr. Hascock, Fort Detrick, Maryland (OCO)

OCTOBER

1-6 CDR W. Maynard, Psychiatry Services, NRMCI San Diego (OCO, Dr. Gunderson & LCDR Butler)

2 Captain R. H. Rahe, DCS, NRMCI Long Beach (OCO)

7 Dr. T. Leahy, Millipore Corporation, Bedford, Mass. (Mr. Edwards)

13 Dr. Allan Jones, Houston, Texas (OCO and Health Care Systems Dept)

19 Dr. Harrison, CIC, & Dr. Bouvier, Internal Medicine, NRMCI San Diego (OCO)

22 L. Bigbee & LCDR King, DEERS Project, MDAD, Monterey (Dr. Gunderson)

23 Dr. B. Bluth, Aerospace Corp., Los Angeles (Dr. Gunderson)

Drs. H. Griffin & F. Garland, School of Public Health, San Diego State University (Mr. Edwards)

Mary Haley, Product Marketing Specialist, Cordis Labs, Miami, Florida (Mr. Edwards)

Dr. D. Kent (CAPT/RET.) Medical Director, Life Extension Inst., New York (Mr. Edwards)

CDR A. Cobet, MSC/USN, Actg CO, Navy Biological Laboratory, Oakland (Mr. Edwards)

CDR D. Conwille, MC/USN, EMPUS & HMC Holmes (Mr. Edwards)

NOVEMBER

17 Dr. D. Woodward, ONR (Dr. Johnson)

Captain McManamon, et al., NRMCI SDiego (Dr. Gunderson)

18 Dr. R. Carnot, Consultant, City of Chicago Environmental Health Service (Dr. Gunderson)

19 RADM G. W. Gotzenhiser, Commander, Naval Reserve Readiness Command, Region 22, Naval Support Activity, Seattle (Dr. Hodgdon, LT Marcinik & CDR Hall)

24 Dr. Dorothy Huber, Frankfurt, Germany (Dr. Johnson)

DECEMBER

1 Dr. Jo Sano, Visiting Scientist at UCSD, from Japan (Dr. Johnson)

2 Dr. Oscar Parsons, University Of Oklahoma and Dr. James Kellen, NOSC, San Diego (Dr. Johnson)

3 Captain Goode, Medical Officer, COMNAVSURFPAC (Dr. Gunderson)

4 Dr. L. James, Georgia Institute of Technology, Atlanta (Dr. Gunderson)

Dr. Murtadha S. H. Al-Marashi, Chief of Neurology, Army Hospital, Fort Ord, Calif. (Dr. Johnson)

11 Dr. Lenore Saltman, Dr. Betty Colletti & CDR Sue Armstrong, Health Science Education & Training Command, Bethesda (Anne Hoiberg)

17 Dr. D. A. Chernik, Dept of Medical Research, Hoffmann-La Roche Inc., Nutley, NJ (Dr. Johnson)

18 Dr. C. Radouco-Thomas, Dept of Pharmacology, Faculty of Medicine, Laval University, Quebec City, Canada (Doug Kolb)

SCIENTIFIC COLLOQUIUMS FOR 1981

January 15

Dr. James Regan, Technical Director and Captain James Kelly, Jr., Commanding Officer, Naval Personnel Research & Development Center (NPRDC) presented "An Overview and Discussion of NPRDC's Research Programs"

February 19

D. Stephen Nice, Ph.D.: "Patient Satisfaction in Navy Family Practice and Primary Care Facilities"  
and  
David Hord, Ph.D.: "Nonauditory Affects of Intense Noise among Jet Fighter Ground Crew"

March 19

LT E. Marcinik, MSC, USNR: "Physical Requirements of General Shipboard Tasks in the Navy"  
and  
Mr. William Pugh: "The Navy Occupational Health Information Monitoring System (NOHIMS)"

April 16

Mr. Douglas Kolb: "A Longitudinal Study of Health Risks Associated with Alcohol Abuse in Young Navy Men"  
and  
Paul Naitoh, Ph.D.: "Trip Report to Japan"

May 21

Mr. Earl A. Edwards: "The use of Solid Support for the Rapid Identification of Disease Producing Microbial Agents"  
and  
Carl Englund, Ph.D.: "Ergonomics Program and Sustained Operations: Effects on Performance"

July 16

Ardie Lubin Memorial Lecture by Dr. Richard D. Remington, Dean, School of Public Health, University of Michigan, Ann Arbor

Lecture: "Applications of Biostatistics in the Health Sciences with Particular Reference to the National Hypertension Detection and Follow-up Program"

Workshop I: Obesity, Hypertension and Physical Fitness  
(Chair: CDR David Hall, MSC, USN)

Workshop II: Applications of Multivariate Analysis in the Health Sciences  
(Co-chair: Anne Hoiberg and William Pugh)



Workshop III: Public Health Issues in the Military  
(Chair: Dr. E. K. Eric Gunderson)



Dr. Lang Dr. Remington

October 15

L. C. Johnson, Ph.D.: "Sedative-hypnotics and Human Performance"

November 19

Anne Hoiberg: "Research of the Longitudinal Studies Program"

December 16

Michael Kalichman, Ph.D.: "Properties of the Benzodiazepine Drugs"

## WORK FOR SCIENTIFIC PUBLICATIONS

Editorial input by staff members for 1981, include:

- Thomas E. Berghage - *Undersea Biomedical Research* (Editorial Board)
- Mark C. Butler - *Journal of Consulting & Clinical Psychology* (Reviewer)  
*Journal of Abnormal Psychology* (Reviewer)  
*Educational & Psychological Measurement* (Reviewer)
- Earl A. Edwards - *Journal of Clinical Microbiology* (Reviewer)
- Anne Hoiberg - *Armed Forces and Society* (Associate Editor)  
*Psychological Reports* (Associate Editor)
- Laverne C. Johnson - *EEG & Clinical Neurophysiology* (Consulting Editor & Reviewer)
- Paul Naitoh - *Educational & Psychological Measurement* (Cooperating Editor)  
*Perceptual & Motor Skills* (Associate Editor)  
*Psychophysiology* (Consulting Editor & Field Reviewer)  
*Biological Psychiatry* (Field Reviewer)
- Cheryl Spinweber - *EEG & Clinical Neurophysiology* (Reviewer)  
*Sleep* (Reviewer)  
*Psychological Reports* (Consulting Reader)  
*Perceptual & Motor Skills* (Reviewer)  
*Association for the Psychophysiological Study of Sleep* (Abstracts)

## ACADEMIC APPOINTMENTS

Some members of our staff teach, in the evening, at local colleges. Senior scientists such as Dr. Gunderson and Dr. Johnson hold Adjunct Professorships (honorary) at the University of California medical campuses in Los Angeles and San Diego. These ties with local universities and colleges serve to keep our researchers up-to-date with the latest academic advances in their fields. Their appointments also speak for the acceptance of many of our staff and their work by academic appointment committees.

### University of California at San Diego, Medical School

Dr. Gunderson - Adjunct Clinical Professor of Psychiatry  
Dr. Johnson - Departments of Psychiatry & Neurosciences, Adjunct Professor  
Dr. Spinweber - Department of Psychology, Lecturer  
Psychology 119: Altered States of Consciousness  
Psychology 132: Psychopharmacology  
Psychology 142: The Psychology of Mental Health and Illness

### San Diego State University

LCDR Butler - Instructor (Assistant Professor Level) Dept. of Psychology  
Dr. Hodgdon - Department of Physical Education (Lecturer, Advanced Exercise Physiology Laboratory) and Member Thesis Committees (of 3 graduate students)  
Dr. Johnson - (Lecturer, Professor Level), Department of Psychology

### Mesa College, San Diego

Dr. Englund - Professor of Psychology (Dynamics of Personality)

### National University, San Diego

Dr. Englund - Professor of Psychology (Developmental Psychology)

### California School of Professional Psychology, San Diego

Dr. Hord - Lecturer (Advanced Statistics; Physiological Psychology; Sensation and Perception; Research Design). Chairman of 2 doctoral Dissertations



Karen Mittleman  
(Student) Linda Hervig



Brenda Crooks Dr. R. Vickers  
Irv Phillips



Jean Beck Donald Beck



LT Wallick HM2 Rick Johnson  
HM3 Rebecca Johnson



Dr. Lang adds...

To close out 1981, the NHRC  
Christmas luncheon was held  
at

Humphrey's Half Moon Inn  
on 11 December.

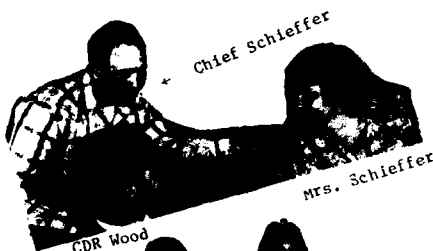
Attending besides  
the staff and  
their spouses, were  
students, former  
employees, and  
friends.



Sonia (Student) Beverly Donnell  
Joyce Ford



Lois West (Ret.) Dorothy Benson



CDR Wood

Chief Schieffer

Mrs. Schieffer



Mrs. Berghage Gregory Baker  
Anne Holberg



HM1 Reyles Chief Milhouse  
Ralph Garcia



Dr. Spinweber

Dr. Hodgdon



Dr. Nice LCDR White



Dwayne Castleberry Mike Corney  
Michael Haight Bill Pugh



Gloria Heck



#### ACKNOWLEDGEMENTS

Compilation and editorial assistance for this report was provided by Brenda M. Crooks.

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The command thanks Larry Hermansen for the photographs contained in this report. After volunteering his services, he was appointed the Command Photographer on 6 July 1981. This additional duty does not pose a conflict with his regular position in Health Care Systems Department.

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